

# The Canadian Medical Association Journal



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# The Canadian Medical Association Journal

Vol. IX.

TORONTO, JULY, 1919

No. 7

## ANNUAL ADDRESS OF PRESIDENT ONTARIO MEDICAL ASSOCIATION

BY G. STEWART CAMERON, M.D.

*Peterboro*

IT falls to my lot as President of the Ontario Medical Association to deliver the annual address, and, before attempting to discuss some of the questions which are before our profession to-day, I desire, first of all, to extend to you my sincere thanks for the honour which was conferred upon me, and, in the second place, to thank the gentlemen of the executive and of the various committees for their willingness to assist in carrying on the work of the Association. In particular I wish to thank the members of the Committee on Legislation, and especially the secretary, Dr. John Ferguson, to whose untiring efforts the success of our "Report on Medical Education" was in a large measure due. To those gentlemen who have come from overseas, and from the republic to the south, to assist in our programme, we extend our warmest greetings and gladly welcome them to our convention. May we hope that their presence with us symbolizes that unity which should exist among the various branches of the Anglo-Saxon race.

You have been called together to take part in the thirty-ninth annual meeting of this Association, and, as its executive head, it gives me great pleasure to-night to welcome you all, and to hope that in the varied programme which will be presented each one may find something to interest and to instruct, so that on your return to your several duties you may carry with you some-

Read at the meeting, Toronto, May, 1919.

thing helpful in solving the daily problems which present themselves and that you may retain many pleasant memories of the association with your friends of former days.

We are permitted to meet this year under conditions quite different from those prevailing during the past four years and a half. Since our last peace meeting in 1914, great changes have been wrought in the world. Little did any of us believe when we read of the murder of the Austrian Archduke and Duchess at Sarajevo that this was to be the beginning of a struggle that would ultimately involve as active participants nearly all the countries of the world, and that nations whose social structure was looked upon as reasonably secure, and others who prided themselves in having evolved a system of government and a masterly efficiency second to none in the world, should be so rent asunder that life and property, the church, art, and all the refinements which we in Anglo-Saxon lands hold so dear should be trampled in the dust by a proletariat made mad by the lust of power and possession. Now nations with new forms of government have sprung into existence throughout middle and eastern Europe and the geography of that part of the world must be restudied if we wish to become conversant with the many changes that have taken place.

■ In our own Empire we have witnessed mighty changes. On that memorable fourth of August, 1914, when the Government of Great Britain determined to back up her word pledged in treaty, by force of arms, there came as if by magic from all quarters of the Empire assurance of loyalty, co-operation, and support to the uttermost, and from that moment up to the present the determination of Great Britain and her Dominions to see the triumph of righteousness throughout the world has never faltered. Steadfastly has she kept faith with her allies during the many trying months of disastrous warfare, and in the face of an incessant propaganda sown by the enemy for the purpose of creating discord among the allied nations. We have seen her army grown from that small but glorious company of "Contemptibles", first, by voluntary enlistment, and later on, as the cry for men became greater, by compulsory service until at the end of the war over seven million men had been recruited into military service. Behind this we saw a nation to some extent resting upon its laurels gained in other days, transformed into a huge workshop of splendid efficiency. The social barriers gave way and men and women of all classes and creeds worked side by side in the great munition plants, shipyards, weaving mills and other immense war organizations. Here

let it be said to the everlasting credit of the labourer and worker of Great Britain that in the hour of his country's need he stood squarely behind his co-worker in the trenches determined to see militarism and its attendant evils destroyed forever, and truth and right living, international honour and integrity permanently established. This action of the British workmen goes far to convince us that while there may be unrest during the transition period from war to peace, he will never permit his country to be submerged by the violent and murderous doctrine of Bolshevism.

All this is something that is of interest to everyone, but out of this marvellous four years of superhuman effort the great medical organizations of the army and of civil life naturally appeal to us in a special way. The success of the gathering together of thousands upon thousands of men from all walks of life depended, in a large measure, upon the effective selection of recruits, and then upon the careful attention to their health during the period of training, and subsequently in the great bases, lines of communication, and on the actual battle front. Beginning with a small organization there grew up one of the most effective systems for dealing with the tens of thousands of casualties that occurred. When we consider that the vast majority of the medical officers were gathered from the ranks of the civil profession in all parts of the Empire, with little or no knowledge of military service, we may be pardoned if our hearts swell with pride at the very splendid manner in which their work was done. Great questions in preventive medicine, hygiene and sanitation had to be solved and it is to the credit of our profession that we are able to produce scores of men who, working in conjunction with other departments of the army, were able to solve these questions and thus permit the military leaders to place in the field soldiers physically fit and to keep them there with the minimum of disease. On the other hand the splendid service rendered by the hospitals, the physicians and surgeons, the nurses and the orderlies, must ever remain one of the bright chapters in the history of medical science. Heretofore we have seen things done, relatively speaking, in a small way, but the war compelled us to do things medically in a gigantic way. Fractures of different kinds were gathered together by the hundred in special hospitals. Wounds of the head, of the chest, or of special organs were grouped together in large numbers so that they might receive the very best attention which surgeons, specially qualified in these varied departments, might be able to give. All this has resulted in returning to efficient civil

life tens of thousands of men who otherwise would have become dependent upon the bounty of the state. Furthermore, it has given to medical science many valuable ideas which, if properly applied, will be of incalculable benefit to civil life.

In the convalescent hospitals, both in the old land and in Canada, we have witnessed the remarkable development of physical and hydro-therapy. So much did these therapeutic measures impress Mr. Justice Hodgins, the government commissioner, that in his recent report he strongly recommended a department should be at once created in our medical faculties. Further, our teaching hospitals particularly should be equipped so that students in medicine could be thoroughly trained in all these methods.

It is with justifiable pride that we, as Canadian physicians, look back over the past four years at what has been accomplished, knowing that throughout it all we have borne our part. In the glory of victory, not only over the enemy encountered in the field, but over many of those insidious foes, that in past wars have taken greater toll than the enemy, Canadian medical officers have shared, and to-night, on behalf of this Association, it is my great privilege to extend to all those men who have returned or who will return, the greetings of the medical profession of this province. Let me say to you gentlemen, that we are proud of your achievements and gladly welcome you home, believing that the knowledge you have gained, the rich experience which has been yours will immeasurably add to the profession in our homeland.

Alas! with all this glory there must come inevitable pain, for among the more than two thousand medical officers who left Canadian shores, many will not return. Cheerfully they gave up their work here and went forth to do whatever fell to their lot in the care of their fellowmen, and whether through disease or by the weapon of the enemy they made the supreme sacrifice we know they gave their lives in the performance of a duty which was entirely a service to others, and we bow our heads in token of respect to their memory. We understand that in the memorial endowment which is being raised by the University of Toronto a certain sum is to be utilized for the purpose of creating one or more fellowships in memory of those graduates in medicine who have fallen. No doubt other medical faculties will be moving along similar lines, and I would strongly recommend to the members of this Association that they give every assistance and encouragement to this movement so that these funds may be adequately provided. Let me say, gentlemen, that the duty is



ours, that the opportunity is here, and let it not be said of us that we were neglectful of our duty or indifferent to our opportunity.

Before leaving this subject, may I be permitted to say one word in behalf of those men who have carried on at home? Many medical men who, for one reason or another, were unable to go overseas, did splendid service in Canada for upon their shoulders rested the responsibility of doing the work here, and while their contribution in no way compares with that of those who accepted the greater responsibility, yet we feel that we should not fail to recognize the good service they have rendered.

Now that the war is over we must turn our attention to the various peace problems. In the world at large many old traditions and ideas have been abandoned and their places have been taken by new and, in many cases, untried ones. The balance of power among the nations is giving way to the hitherto utopian idea of a league of nations wherein the countries of the world will seek to live together in peace and harmony. In the domain of medicine things almost as revolutionary have taken place, and it will be to our advantage to study the new conditions which have arisen, and to place ourselves in a proper receptive attitude towards them.

For most of us the character of practice will be somewhat altered as a result of the return of so many soldiers who have been casualties to civilian life. As these men, either temporarily or permanently disabled, gradually scatter to their various homes through the country they will come under the care of the general practitioner. Injuries of bones and joints and of muscles and nerves will be fairly common. The care of amputation stumps and the adjustment of artificial limbs will demand a good deal of attention. On the more purely medical side there will be those disabilities such as nephritis and the pulmonary results of the various gas poisons. Added to this, there is bound to be a much wider spread of venereal diseases, and for some time to come we shall have a goodly number of men suffering from the effects of the various mental and nervous disorders resulting from the conflict. To give the best service to these men we must become conversant with the best forms of treatment adapted to these cases, and, as the Government has assumed the responsibility for the care of all returned casualties, I presume they will demand a proper efficiency on the part of the profession. Might we suggest, therefore, that medical men accept every opportunity presented of obtaining a good working knowledge of this new type of practice.

In this connection, I think it a most commendable idea on the part of the Director General of Medical Services when he suggested through the Officer Commanding of the Dominion Orthopaedic Hospital, the advisability of the members of our Association paying a visit to that splendid institution, and seeing at first hand the work being carried on therein. Would it not be possible to go a step farther and suggest to the military authorities that these various institutions throughout the country be made centres where clinical instruction could be given to classes of graduates. This would have a two-fold bearing. The members of the profession who availed themselves of these classes would get a good insight into the more modern therapeutic devices in medicine and surgery and, on the other hand, the military authorities and the Pension Board would have a better trained profession to minister to the disabled soldier.

This naturally brings to our minds the subject of general post-graduate training, and now that the war is past we believe one of the first questions which should interest our profession, and particularly the teaching bodies is that of developing proper facilities for the instruction of graduates. Previous to 1914 many of our men, to increase their store of medical knowledge, went to Europe, Great Britain, or the United States. For apparent reasons this is all changed and for many years to come the continent of Europe will not be the medical mecca it has been in the past. I know I am voicing the feelings of a great many of our profession when I say that we must develop within ourselves facilities for post-graduate instruction. The large clinical centres of the United States are always available for those who have the time and inclination to go abroad, but there are hundreds of men practicing in the rural sections of our province who find great difficulty in leaving their fields but who, at the same time, should have some close-at-hand means of receiving instructions in modern clinical methods.

The time has arrived when our universities should seriously consider this matter, and try to formulate some scheme whereby the graduate, after he has successfully completed his training with the faculty could be kept, as it were, under observation. The Department of Medicine should be so organized and directed that there could be constant co-operation between the man in the field and the parent body. Whether this should be carried on by the same instructors is a question for study. In this province the public has spent and is spending large sums of money equipping hospitals and laboratories wherein men are trained in the very

best methods of preventing and of treating disease. To this extent at least they are directly interested in the training of competent physicians. In consequence have they not a right to expect that this standard should be maintained throughout the physician's years of practice? Is it surprising that in some quarters we find the suggestion advanced that men in practice should be examined at stated intervals to determine whether they are keeping up to a proper standard of efficiency. We believe that this would be quite unnecessary if thorough modern graduate instruction was inaugurated and its advantages and attractions thoroughly and constantly kept before the profession. In addition your Association is making an effort to raise the standard of work in our profession by introducing through local medical societies a system of post-graduate medical study. A committee was appointed some time ago to consider this matter, and I am glad to say that success has attended our efforts to such an extent that we hope to be able very shortly to offer any local or county society a syllabus of lectures together with a list of medical men who will be available to give them, and I would strongly recommend every Association to investigate our plans and arrange where possible to adopt them for the coming autumn and winter.

Through our journals and the medical and surgical literature of the war we have learned a great deal about the brilliant work done by our surgeons and internists, but not so much about what was done to keep our troops in good physical condition, and prevent those decimating epidemics which in all previous wars have been a greater menace than the guns of the enemy. We have on the one hand the splendid work of our engineers in conjunction with the sanitary corps giving to our armies a constant supply of pure water for drinking purposes, and providing adequate sanitary arrangements. On the other hand through the compulsory use of serums and vaccines the horrors of smallpox, tetanus, enteric and allied fevers were practically eliminated. If it was possible among the millions of soldiers to reduce infectious diseases almost to the vanishing point, and if, through proper medical supervision and adequate sanitary and hygienic conditions it has been possible to build up a strong physical manhood, should not application be made of this when we come to consider civil life? The whole field of medicine as you are aware may be, broadly speaking, divided into two parts, the prevention of disease, and the treatment of disease. As we said a moment ago, much has been said about the treatment, but comparatively little about the prevention.

We believe, however, that if the army's experience is fully made use of among the civil population, preventive medicine and its resultant public health will receive a very great impetus. While a great many of the beneficent aids in the prevention of sickness have come from our laboratories, the organization and development of national public health movements must necessarily go beyond the bounds of our profession and find helpers among all classes of the laity.

It is with pleasure that we note that a Department of Public Health has been created by the Federal Government, and we sincerely hope it will be launched well equipped with suitable laboratories, and thoroughly competent men to conduct the work. Ample funds must be freely supplied for the maintenance of all its activities and it should be absolutely free from any political control. We would like to suggest that the Government provide a certain number of fellowships to be open to the graduates in medicine from our various universities. We trust that this is but the beginning of a much wider interest in matters of public health by the Dominion Government and that the many lessons learned as a result of the war will be promptly and efficiently applied to peace conditions. In the matter of venereal diseases, the army has been largely responsible for placing certain facts before the public and we believe that the public desire to see sane action taken by the Government. The Federal Authorities in assuming the treatment of the returned soldier will, we suppose, not relax their vigilance regarding social diseases among them. A matter that might well be referred to the Federal Health Department for investigation is the result of the examination of recruits under the Military Service Act. Out of 361,695 men examined, 181,255 were found to be lower than Category A, or in other words a little over 50 per cent. of the men examined were defective in some way, and let me say that in many cases this result was apparent in sections where the large bulk of the population was native born, so that the cause could not be the result of indifferent immigration. I am quite sure you will agree with me that these percentages are altogether too high for a young virile country such as Canada. Having learned these facts, are we as a nation to sit idly by and permit a continuance of this decadency? All will emphatically say no, and the public, being in possession of this information, will naturally look to us to take the lead in solving this question. Many of the defects were undoubtedly due to accidents and injuries received during adolescence, but even after eliminating all cases of



this kind, we still have a large percentage that were due to preventable causes. In order that this may not be repeated in succeeding generations, our profession should do all in its power through properly organized clinics, supervised instruction and ethical propaganda to secure healthful prenatal conditions for the mothers of our land, modern obstetrical attendance and nursing during their puerperium, and the best of food and modern hygiene conditions generally, both for the mother and child, during the succeeding months. It is unfortunately too true that our advent into this world is still surrounded by too much superstition, and I am sorry to say carelessness, arising from ignorance. In the garden of Eden it may have been a physiological event, but under our modern conditions of life it is beset by many pitfalls.

The subject of under-graduate instruction has been receiving attention from our medical faculties, but up to the present time we have not heard the results of their deliberations. We suppose there cannot be much difference of opinion with respect to the primary studies. Anatomy and physiology, with the co-related subjects, must naturally receive very thorough and comprehensive study for upon these subjects must always rest the superstructure of the student's medical education. When we come to consider the training in the final years differences of opinion are more likely to arise.

The rapid development of medical science renders it impossible for any one man to become proficient in all departments, hence the reason for specialization. We think that the time is at hand when consideration will have to be given to the separation of medicine from surgery, and in creating a separate department of public health. If medical education is to develop along these lines the final years of study should have optional courses, so that a man after receiving a good general knowledge of medicine might concentrate his efforts along congenial lines and more thoroughly fit himself for the particular work in which he is to engage. If this were done we think the degree of M.B. should be conferred upon graduates as a mark of general proficiency, and when a man has completed the work in his particular department the degree of that section should be given to him, thus indicating that he is particularly qualified in medicine or surgery or whatever his special branch may be. In this way the public would gradually come to recognize these qualifications and the holders thereof would receive a recognition which they do not at the present time.

By increasing the time of study to six years and also by the

greatly increased cost of living a very valuable type of man will be eliminated from our student rolls. I refer to those who in former years gained their education by their own individual efforts and in many instances were numbered among the brightest lights in our profession. To offset this might we suggest to some of our wealthy laymen that they emulate the example of Sir John Eaton, whose princely gifts to medical education rank him among our best benefactors on this continent, and provide fellowships which would be of real assistance to our graduates. This would at the same time tend to keep many valuable men at work in our own land in place of having them go elsewhere and thus losing their services to the country.

It was disclosed in Commissioner Hodgins' report that there was not complete harmony of opinion between some of our universities and the College of Physicians and Surgeons regarding the jurisdiction over the examinations for license to practice. May we be permitted to express our regret at this and at the same time to say that we think it would not be in the best interests of the universities, or of the profession at large, to have centralized in the universities the power for which some of them are asking, and we are glad to see that Mr. Justice Hodgins took a similar view in his report. There are many men outside of the medical faculties who from travel and practical experience are quite competent to give valuable advice on medical education, and we think it would be unfortunate if this opinion should be eliminated. Rather we think some plan should be devised whereby this opinion could be utilized.

Centres of medical activity are gradually developing in Ontario. If our population is to increase even as fast as some of our moderate prophets foretell these centres will rapidly grow and become no mean factors in shaping the medical affairs of this province. We would therefore suggest that in any legislation that may be forthcoming these facts be recognized and that the interests of the general profession be carefully guarded. At the present time the only official avenue through which we may give expression to our views is the College of Physicians and Surgeons, and while there may be a necessity for some reorganization of that body we believe there is no real call for departing from the principle underlying its position with respect to medical education.

The most important problem before our profession in this province to-day is the new medical legislation which is bound to appear in the near future. As you are all aware the report made

by Commissioner Mr. Justice Hodgins has been presented and the committee of this association, in conjunction with the College of Physicians and Surgeons, placed their views on the report before the Government last November, and it was generally understood at that time that legislation would be brought down at the annual session of the legislature this past winter. For some cause this was not done and, so far as I am aware, no reason has been given by the Government for the non-appearance of the proposed bill. We do know, however, that very strong opposition to the Hodgins' report developed among the irregular practitioners of this province, and it is possible that the Government desires more information before embarking on this new legislation. We are inclined to think that a good many medical men do not realize the gravity of the present situation. The Commissioner in his report very strongly upholds the general position taken by the profession; but when a government considers legislation it is naturally guided to a very considerable degree by public opinion, and I think we should stop for a moment and consider whether we have united public opinion behind us. Perhaps it may come as something of a shock to a good many doctors when we tell them that we doubt very much if a bill based on the findings of the commissioner could be passed at the present time for, from the replies given by many members of the legislature when approached by representatives of this Association, we believe that such a bill would have a hazardous course in Queen's Park.

The practice of medicine to the lay mind is shrouded in mystery, and it is an astonishing fact that even among the educated classes they have little conception of what medical science is really doing. On the other hand there is arrayed against us very strong commercial interests and the whole body of irregulars, and these interests are seeking to create a public opinion strongly antagonistic to our profession. We find appeals being made to the poor man, the worker or the artisan, as the case may be, urging the government of the day to resist the encroachment of the medical profession. A glaring example of this was seen in the enactment regarding the public sale of medicine for the treatment of venereal troubles. Notwithstanding the fact that the bulk of the agitation for this needed reform came from the laity, the medical profession has been accused of being the instigator of this movement with the object of getting a monopoly of the treatment, and thus increasing their incomes. In the state of unrest that is abroad to-day, it is difficult for any one to forecast the effect which these

propaganda will have. We believe that a great deal too little has been done in the past to bring the general public and the medical profession into closer contact. It is quite true that the personal relationship between patient and physician is often of the closest, and that many times he is the guide, philosopher and friend of his clientele. But notwithstanding these happy relationships it is yet a fact that a great mass of the public know little about the profession as a whole, and the great fundamental principles upon which is based our modern conception of medicine. The result is that much of the public's information has been received, in the earlier days, from the picturesque quack who stood on a box at the village corner and explained to an awed group of villagers the wonderful problems of disease and his still more wonderful remedies. More recently this educational work has been taken up in vigorous fashion by all sorts of patent medicine companies. Through the mail, the daily or weekly newspaper and the monthly magazine, they tell what benefactors they are to the human race, and in the various cults we have the ultra modern purveyors of medical knowledge. As a profession we should be brave enough to admit that important forces are opposed to us, and in place of treating the whole matter lightly seek by legitimate propaganda to educate the public to a better understanding of some of the principles underlying modern medicine. It is quite true that this would be a departure from our traditions, but when the whole "world is in the melting pot", we, in our profession, cannot hope to escape without some marked changes, and to my mind these will be the better for us if we try to direct the public mind to a truer conception of the scientific basis upon which we rest our diagnosis, prognosis, and treatment.

A matter which I think requires no apology for bringing before you is that of State medicine. As you all know there is a demand in some countries for Government or State control of the medical profession. In Canada, in one or two of the provinces, it has appeared as the beginning of a real issue. It is not my intention to-night to either approve or condemn. To do this intelligently we must be in possession of much more information than we at present have. Believing that it might become a live topic of interest to our profession in the future and desiring that you should be in possession of the best available information on the subject we appointed a committee, last autumn, to gather data and place it in your hands so that you might become conversant with all sides of the question. The rearrangement between



the employer and employee is to-day a very pressing question. The relationship of capital to labour is everywhere a predominating issue. We, in Canada, are not escaping this world-wide revolution, and it seems to me quite possible that a demand will be made that medicine, to some extent at least, shall come under the control of the State. In the agitation that is going on among the masses of our people higher wages is not the only question. They are demanding, and rightly too, better housing conditions, better hygienic and sanitary arrangements, more time for recreation, and better opportunities to enjoy their lives. Add to this the public opinion along similar lines that is bound to be created by our returned soldiers and you have a force that will compel any government to give very earnest consideration to their demands. As a profession we cannot stand aloof from this great movement nor assume a spirit of indifference. There never was a time in the history of Canadian medicine when we should watch more carefully the trend of public opinion, and be prepared to assist in the direction of that opinion so that the very best results will accrue both to the public and to our profession.

The matter of school inspection is one of the subjects receiving increased attention at the present time. Too little attention has been paid in the past to the physical side of our children. It is only within recent years that any real attempt has been made to develop healthy manhood and womanhood in our schools. Our educational system has disclosed a mad race to pass examinations on schedule time. The robust in body and mind succeeded while those of bright intellect but weakened bodies had to give up the contest or else fall by the wayside, physical misfits. On the other hand the child of fair physique but slow-developing mentality has too often been the butt of his more fortunate classmates or of his instructor. We trust that in the change of view that is taking place among our educationists they will insist that careful and thorough examination be made by all school children on their entrance to our public schools, that from time to time throughout their course they be submitted to further physical examination so that defects in development may be detected and proper measures taken for their correction. In this way children, weak, either physically or mentally, may be early detected, and proper plans made for their care. We believe that physical exercise both in gymnasium and on the campus, under properly qualified instructors should be part of the daily time-table in all our schools. To provide all this would entail much increased expenditure on the part

of the State, but where can money be better invested than in building up men and women of strong body and mind. Surely this is the greatest asset any State can have, and we feel that the humblest dweller in the land has a right to expect our Government to provide facilities that will enable his child to get a square deal physically during the years of his compulsory school attendance.

In the epidemic of influenza through which we have passed, the medical profession has been called upon to pay a heavy toll, and many of our numbers have made the supreme sacrifice as a result of arduous work and faithful attention to their suffering clients. At another time, and from another source, a fitting tribute will be paid to these past members of our profession, but there are two names that stand out so distinctly in my mind that I feel I cannot allow this occasion to pass without making some personal reference to them. I refer to the late Dr. Reeve of Toronto, and the late Dr. Norman Beal of London. The one had outlived the allotted span of three score years and ten, but even though his life was long it was not long enough to see the fulfilment of various projects that filled his busy mind. He was a man who had built up for himself a national reputation in his chosen field, and to such an extent had he gained the goodwill and respect of his confreres that in 1906 one of the most distinguished honours in Anglo-Saxon medicine was conferred upon him, that of being made President of the British Medical Association. It is not necessary for me to dilate upon his life, suffice it to say that it was an ornament to Canadian medicine, and an inspiration to all those who knew him. Norman Beal was a member of the executive of this Association until a few weeks before his death, when he resigned that he might accept the position of first assistant to William Mayo at the Rochester clinic. His life was cut off just on the threshold of what promised to be a brilliant surgical career. To those of us who knew him and had the pleasure of working with him, his memory will ever remain as the embodiment of that buoyant enthusiasm in his chosen profession which would go far to maintain in Canadian medicine the very best traditions of our science.

I cannot close these remarks without mentioning the splendid service rendered in the recent conflict by our nurses. They have braved the dangers of war on both land and sea, and many of them have given their lives in the service of their country. On behalf of our profession I take this opportunity of publicly recognizing the splendid work which they have accomplished. Those

who are privileged to return to civil duty should form a very strong body in their profession, and no doubt will lend considerable influence in the direction of the affairs of their Association. There are some problems surrounding the question of nurses in Canada which will soon require action, and I think I can say in so far as medical profession is concerned, we would much prefer that they settle these themselves. Considerable discussion is going on at the present time with respect to the pay of nurses, their hours of duty, and also to the place of the experienced nurse. I think it is only reasonable to say that, with increased remuneration to the trained nurse, and shorter hours of duty, their clientele will become more circumscribed, and hence a wider field of usefulness will be opened for the experienced nurse. I am sure it is safe to say that almost every physician feels the necessity for the experienced nurse and I am led to believe that this is in accord with the views of many of our trained nurses, but we would like to see the work organized in association with our present nursing system. We trust that in the discussion on this subject before the Canadian Nurses Association, some scheme may be evolved whereby the practical nurse can be trained and controlled, through or in association with, our present nursing staffs.

In closing let me say to the members of our profession that a two-fold responsibility rests upon us. First, our responsibility to the public whom we serve and, secondly, our responsibility to ourselves. Let me say, more particularly, for the benefit of those who are not of our profession, that medicine is not a monopoly or a close corporation as some would have you believe. The scientific principles upon which modern medicine stands have been discovered through the arduous toil of those master minds everywhere working to ascertain the truth of those laws and forces operating in the physical world, and all we ask of those who would join us is that they conform to the well-recognized standards of medical training. As we said before, the field is so great no one can hope to master it all, but we do believe the public have a right to expect that when a man or woman presumes to treat the sick, he should be as well qualified as it is humanly possible to be. We owe it to ourselves to be more united. The constant unrelenting toil of the general practitioner too often begets an isolation that renders him difficult of approach by his neighbouring confreres. We must develop more of the get-together spirit. Our local or county societies should be centres where men frequently gather for the discussion of medical problems and other matters pertaining

to the health and activities of the community in which they live. Beyond this, a keener interest must be developed in the provincial Association, so that in all questions of public health or medical legislation the voice of our profession could be heard, as it has a right to be heard, for to whom if not to us should our legislatures turn for advice on these problems; but let me say as a warning that conflict of opinion on our part will not get us very far, and while we seek thus to consolidate our interests in this province let us not forget that we are only a part of the national organization. Through the Canadian Medical Association, we should seek by every means to cement the ties that bind us to our colleagues in the other provinces. Let us forget the boundaries that may divide us and endeavour to build up in this new land a profession nation-wide in its compass, universal in its thought, and worthy in every way of the best traditions of the great body to which we belong.

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IN compliance with a request from the Dominion Government, Hon. W. D. McPherson, Provincial Secretary of the Ontario Legislature, has introduced a new Registration Act affecting births, marriages and deaths. According to the provisions of the new Act, it is incumbent on every nurse, doctor, clergyman, undertaker or any other person to supply the Registrar-General with such knowledge relating to births, marriages or deaths as may be desired by him. Division Registrars, in future, must send in their reports monthly, rather than quarterly as heretofore, and, in case Registrars have no returns, they must report the fact. If the Division Registrar is not properly advised of a birth, marriage or death, he must notify the persons responsible for the neglect, and if the neglect continues for over seven days, the Registrar-General must be notified of the fact. All registrations must now be made by the parent or guardian. Births at sea, where the mother is on her way to Canada, or births across the border in hospital may, henceforth, be registered in Ontario, and in case of a still birth, the birth must be properly registered before the burial permit is issued.



## THE ALBUMINURIA OF PREGNANCY

BY EDWARD P. DAVIS, A.M., M.D., F.A.C.S.

*Professor of Obstetrics, Jefferson Medical College, Philadelphia*

WHEN you did me the honour to ask me to prepare a paper for this Association, the suggestion was made that the topic albuminuria of pregnancy be chosen, and it is with great interest and pleasure that I venture to discuss this important subject with you this evening. I may perhaps set forth clearly what I mean by the albuminuria of pregnancy by the narration of a case.

A woman aged thirty, in her second pregnancy, was admitted to the Maternity Department of the Jefferson Medical College Hospital, evidently in the ninth month. The contour of the abdomen was unusual and a provisional diagnosis of twin pregnancy was made. There was marked general oedema and while the patient was not ill she expressed herself as not feeling in the best of health. There was no headache, nausea, nor vomiting, constipation to a moderate degree, and no disturbance of vision. Examination of the urine showed serum-albumen in great abundance, no casts except a few faint hyaline ones, a high percentage of urea, no sugar, no acetone and no diacetic acid. The pulse tension was 140, and while there was some congestion at the bases of the lungs, the thoracic organs were otherwise healthy. As the patient seemed fatigued she was put to bed, given laxatives and milk and soft diet and very shortly labour developed with the birth of twin children. The oedema and albuminuria speedily disappeared. This case illustrates, I think, what is meant by the albuminuria of pregnancy. The most rational explanation of the condition is mechanical pressure undoubtedly interfering with the circulation of the kidneys and also the exit of urine and the increased metabolism incident to twin pregnancy. The condition is not one of gravity and should occasion no anxiety in the mind of the physician. It is to be distinguished from more serious conditions by a thorough study of the urine, accurate observation of the pulse tension and, if possible, by an expert examination of the eye grounds.

But I apprehend that under the term albuminuria of preg-

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Read before the Medico Chirurgical Association of Montreal, April 11, 1919.

nancy you may have had in mind a more serious condition frequently culminating in eclamptic convulsions. May I then discuss with you this more complex and interesting topic.

Out of the mass of theories and conflicting clinical observations concerning the pernicious nausea and vomiting of early pregnancy, and the albuminuria and eclampsia of later pregnancy, there have come some facts proven by clinical observation which may give us a comparatively clear picture of these important conditions. Under the term toxæmia of pregnancy, obstetricians of to-day include pernicious nausea and vomiting, albuminuria and eclampsia and other complications. Is there a common factor running through these various phenomena whose recognition may aid us in their interpretation?

The term metabolism, while illustrating the fact that language is used to confess ignorance, or conceal ideas, still indicates processes connected with nutrition and excretion. Before the placenta is fully formed, there is evidently a biological struggle between the embryo and the mother. The abundant growth of syncytium with free proliferation of chorionic villi and their discharge in buds into the mother's blood stream threaten to overcome the immunizing properties of her blood and expose her to the danger of the acute poisoning known as toxæmia. This manifests itself in early pregnancy, and sometimes in later pregnancy as well, by persistent nausea with or without vomiting, inability to maintain and assimilate nourishment, progressive weakness and finally death from exhaustion. The clinical picture is sufficiently familiar to require but brief mention. In these cases, albuminuria cuts but a small figure. A nitrogen partition of the urine shows clearly a disturbance in nitrogenous metabolism. Microscopic study of the blood reveals the fact that the red cells are undergoing extensive disintegration and that the colouring matter of the blood is being lost in various ways. While the urine may contain albumen and casts, these are not present in large quantities and are often absent. Blood pressure and pulse tension are usually less than normal.

After the formation of the placenta the mother as a rule is spared to great extent the danger of the excessive growth of foetal elements and her perils are transferred to another process, namely that of nutrition and excretion both for herself and for the growing foetus.

I need scarcely remind you of the fact that we are ignorant of the cause of the toxæmia of later pregnancy. It evidently results from a process which does not cease when the child leaves the uterus,

for the mother may pass through acute toxæmia with or without convulsions, without expelling the child, and again acute toxæmia may reach its highest point after the uterus has been emptied. That this process has to do with pregnancy is undoubted, for it does not occur in the non-parturient.

Without attempting to establish definite different classes of toxæmia in later gestation we may mention three groups which are fairly distinct in their clinical manifestations. First and most common the nephritic albuminuric type. Second, and less common, the hepatic variety; third, and infrequent, that which is caused by failure in the ductless glands to perform their function, or by exaggerated function, notably the thyroid gland.

All of these occur in individuals in whom metabolism is in some way faulty. In some a gouty tendency is present. In others there is habitual lack of normal action in one or more of the important digestive organs. In others the thyroid gland is evidently abnormal in its function. Women who first become pregnant when considerably over the average physiological age for reproduction, are apt to develop this complication. While there is no positive proof that one attack, or that one experience of this abnormality, confers immunity against others, women who in their first pregnancy pass through acute toxæmia often escape in later gestation.

In the more common nephritic variety the most prominent symptom is serum albuminuria, and as the detection of serum albumen in the urine is very easily accomplished this fact has given the name albuminuria of pregnancy to the acute toxæmia of pregnancy of the nephritic variety. The classical fable of the general practitioner who boils some of the patient's urine in a spoon over the flame of a candle and makes a diagnosis of impending convulsions, illustrates the old and common conception of the albuminuria of pregnancy.

An accurate diagnosis of this condition is made by an examination of the urine which reveals the presence of serum albumen in considerable quantity. A slight serum albuminuria is often seen in healthy individuals. Accompanying this there is some alteration in the percentage of urea and in the nitrogenous metabolism, for the nitrogen partition of the urine will show increased creatin and creatinin, rest nitrogen, and often ammonia. Indican is not infrequently present in large quantity. Sugar, acetone, and diacetic acid are usually absent. Casts of all varieties are abundantly in evidence. The quantity of urine is greatly diminished, its

specific gravity much increased. Its colour may be considerably darkened and it may resemble the smoky urine of acute nephritis. Pulse tension will be above 140 and may rise as high as 220. The aortic sound of the heart is often sharply accentuated and the cardiac impulse is strong and heaving. There is obstinate frontal headache, often impairment of vision, sometimes with the sight of particles of fire before the eye. The patient may be dull and apathetic, or irritable and excitable. Local or general oedema is frequently observed. The tongue is usually foul and heavily coated and obstinate constipation is frequently present.

The natural history of this condition is to proceed to an explosion of nervous energy. This commonly manifests itself in tonic and clonic convulsions which are typically epileptiform in character.

In other cases known as eclampsia without convulsions, the patient is suddenly seized with violent nausea, vomiting and severe headache, disturbance of vision, high pulse tension, scanty urine whose contents have been enumerated. While convulsions may not occur, the cerebrum is profoundly disturbed and cerebral oedema or hæmorrhage may develop. In some cases hæmorrhage from the mucous membrane of the stomach or bowel or hæmorrhages beneath the skin are observed. Eclamptic convulsions, or a profound disturbance of the nervous system which occurs without convulsions, may produce an eliminative crisis. Oftentimes labour develops the uterus contracts strongly and expels its contents. This is accompanied by hæmorrhage, by marked fall in pulse tension, sweating, relaxation and increased secretion of urine. In other cases the emptying of the uterus produces no improvement. Whether the crisis comes with or without labour, if the course of the disease be favourable, phenomena resembling lysis develop. Profuse sweating, evacuation of the bowels, increased secretion of urine, lessened pulse tension, cessation of headache, improvement of vision and gradual return to a comparatively normal state are observed. In some cases lysis does not occur, but the explosion of energy in the nervous system results in minute hæmorrhages into the substance of the important viscera as the lungs, the liver, spleen, kidneys and brain, pulmonary oedema develops acute cloudy swelling of the heart muscle, cerebral oedema and hæmorrhage, paralysis of the heart, cardiac, and respiratory centres, and death from exhaustion.

The pathology of this condition has been simply sketched in the preceding statements. Autopsy reveals the kidneys greatly engorged, alterations in the lobules of the liver and often in the



substance of the spleen, lungs, and brain. The foetus shares in the mother's disease and its organs when examined show lesions corresponding to hers. The process is evidently a poisoning, but of the exact nature of the poison we remain at present in ignorance.

In the hepatic variety of the acute toxæmia of pregnancy, albuminuria is absent or present in but trivial degree. There are no casts except a few hyaline. Blood pressure is often subnormal. The temperature is also subnormal. There is no severe headache, the patient is apathetic, the tongue is dark in colour and dry, the urine scanty and very often slight jaundice is observed. Albumen and casts as has been said may be absent. A nitrogen partition, however, will reveal a greatly diminished urea, increased creatin and creatinin, rest nitrogen and ammonia, and high indican percentage, and frequently acetone and diacetic acid. A predominant feature in these cases is the disintegration of the blood and a tendency to oozing hæmorrhage into the viscera or petechial hæmorrhages beneath the skin. Such patients may have convulsions, or may develop pernicious nausea, or may die by exhaustion without an explosion of nervous energy. The diagnosis of the condition is made by a general physical examination and by the nitrogen partition of the urine.

In the thyroid type of toxæmia the thyroid gland is evidently altered in substance and structure, exophthalmos may be present, the pulse is frequently rapid, pulse tension may be increased or lessened. There is a history of hyper- or hypo-thyroidism often dating from the beginning of menstruation. If the patient has passed through a previous pregnancy and labour, she will give a history of great disturbance, excitement and dyspnœa when labour pains began. An examination of the urine may reveal a moderate albuminuria and a few hyaline casts and nitrogen partition will show no great variation from the normal.

Cases of thyroid toxæmia are especially dangerous at the incidence of labour. Great disturbance of circulation and pronounced dyspnœa usually occur. So severe may be the disturbance that the obstetrician may elect to deliver the patient in such a manner as to avoid the usual phenomena of labour and uterine contraction.

What can be done to prevent so serious a complication of pregnancy? Unquestionably this is to-day the most deadly and unmanageable menace to the life and health of mother and child which confronts the obstetrician.

Under the term hygiene of pregnancy should be included a thorough, intelligent and patient observation of the pregnant

woman. This is impossible without her co-operation, hence the education of the laity in this matter is of great importance. It is not sufficient to examine specimens of urine at intervals of three or four weeks, but the patient should be seen at least every two weeks during pregnancy and her actual physical condition accurately ascertained. A thorough examination of the urine, including a nitrogen partition, if suspicious symptoms arise, is imperatively necessary. So the repeated taking of the pulse tension is a wise precaution. As regards the actual prevention of this condition, one naturally thinks of the patient's food and then of her ability to assimilate this food and excrete her own waste products and those of the foetus. The ideal food for the pregnant woman is comprised of milk, fruit, and bread, and unquestionably the avoidance of considerable quantities of highly nitrogenous food is the greatest preventive for the acute toxæmia of later gestation. It is often impossible to accurately ascertain what the patient really eats unless some intelligent caretaker be with her. A patient should receive from her physician a clearly stated and plainly written or printed memorandum of hygiene in which suitable articles of diet are emphatically named and equal stress is laid upon these things which the patient should not eat. In giving such directions, one must naturally have reference to the patient's circumstances and to the possibility of her obtaining proper food.

It is also of paramount importance that the bowels should act regularly and freely, that the patient drinks at least one quart of good water in twenty-four hours, that the action of the skin be stimulated by bathing and by the wearing of proper clothing during the colder portion of the year, that abundant fresh air and exercise be afforded and that the patient lead a hygienic life. These simple matters seem to the patient trivial and it is difficult to get women to take them seriously. But unquestionably strict adherence to such simple precautions will prevent in the majority of cases this dangerous and distressing complication of pregnancy. Possibly the mother may be stimulated to co-operate with the physician if she be told the truth that if she becomes ill, her child will share her illness and probably die. We are aware of the fact that the scientific men who are working to lessen cancer are disseminating knowledge of the first symptoms of cancer in women by posting in rooms frequented only by women a brief, simple description of the first signs and symptoms of cancer. Why would it not be proper and well to give information concerning symptoms of threatened acute toxæmia to pregnant women?

There is no drug which can be relied upon as a specific against the acute toxæmia of later pregnancy, but those remedies which stimulate elimination are exceedingly valuable. Should the patient grow steadily worse, there will come a time when evidently the explosion of energy in the nervous system is threatened. This we believe to be the critical period in the case. While convulsions cause the patient alarm and while they terrify her relatives and friends, they are not the all important element in the case. A patient has recovered who had more than a hundred convulsions and many have died who had none. But these cases should be recognized in many instances before convulsions occur and then is the golden opportunity for treatment.

Three methods of treatment out of the many proposed in the past have had some measure of success. We recently have had a revival of the argument to terminate pregnancy in these cases at the earliest possible moment when symptoms threaten or convulsions develop by delivering the patient by abdominal or vaginal Cæsarean section. This proposition is exceedingly attractive to the obstetric surgeon, and is prompt and efficient so far as the emptying the uterus is concerned, but does not aim at the acute toxæmia which is present, and hence the operator must not be surprised if the anæsthetic and the surgical manipulation increase rather than lessen the toxæmic condition present. Nor are we surprised to learn that in a large series of cases so treated the maternal and foetal mortality was greater than those subjected to other methods of treatment. It has been clearly shown that immediate delivery, whether by the slower and more violent method of forced vaginal delivery, or by the rapid and comparatively easy method of abdominal or vaginal section does not show the best results for mother and child.

We do not, however, mean to assert that there are no cases in which prompt delivery by section is not indicated, and to this point we shall return later. Another method of treatment which has long been used and has been recently brought into prominence by Stroganoff, of Petrograd, is the treatment by narcotics and sedatives. This may be termed the home treatment of acute toxæmia or eclampsia, in contrast with the treatment in hospital, and consists in isolating the patient from disturbing influences, in the free use of morphine, bromides and chloral, in the careful avoidance of all disturbance of the generative tract and in no interference unless labour begins and halts, when it may be terminated by an easy vaginal delivery. The statistics of a considerable number of cases so treated are favourable to the success of this method, but

the method cannot be said to be superior to that which aims to secure immediate and thorough elimination as the basis of intelligent management. The sedative treatment is particularly applicable for the general practitioner who cannot take his patient to a hospital and who has not the experience, appliances and assistance necessary for more thorough, vigorous and successful management.

The third method of treatment for the acute toxæmia of later pregnancy, with or without convulsions, is aimed at elimination as the ground work of success. This treatment can be carried out most successfully in hospitals, or, if this is impossible, a hospital must be improvised in the home of the patient. If the patient be not unconscious and in convulsions, she should be lightly anæsthetized with nitrous oxide and oxygen. A vein in the arm should be opened and from sixteen to twenty-four ounces of blood withdrawn and an equal quantity of normal salt solution introduced. The stomach should be thoroughly irrigated with warm bicarbonate of soda solution and from two and one-half to five grains of calomel and soda should be poured through a tube into the stomach and allowed there to remain. The large intestine should be thoroughly irrigated with two gallons of hot salt solution. The patient should be catheterized and the urine thus obtained thoroughly examined. The patient should be placed between blankets, the skin cleansed with soap and warm water, hot water bottles placed to the feet and a dry ice cap upon the head and an abundance of fresh air should be secured. Should convulsions occur, a soft pad should be placed between the teeth to prevent the biting of the tongue. No effort should be made to control the convulsions by narcotics or anæsthetics. In from two to four hours, the irrigation of the intestine should be repeated. In from six to eight hours the patient will be better or worse. If she is a multipara and the cervix be soft and dilatable, the membranes may be ruptured and the patient will gradually come into labour. If she be a primipara with a cervix unshortened, long and resisting and eliminative treatment for six or eight hours shows no improvement and the child be living and in good condition, she may be delivered by abdominal Cæsarean section. Under no other condition, however, should section be done. If labour develops and halts when conditions are favourable for vaginal delivery, labour should be terminated by forceps or version, but labour should not be induced nor should the accouchement forcé be employed. No radical procedure should be undertaken in the interests of the child, for it must be remembered that the foetus shares the mother's toxæmia and, although it may be



born alive, in the majority of cases death will occur from toxæmia within two weeks' time. In cases where there is great restlessness and excitability, the very moderate use of morphine hypodermically may be permitted, but the essential element in the treatment is rapid, thorough, persistent elimination and nothing must be done to interfere with this. When acute toxæmia, with or without convulsions develops after labour the treatment is the same. Bleeding should be done without reference to pulse tension, but with regard to the evident severity of the toxæmic process which is present.

After delivery, two dangerous complications threaten, the first is pulmonary œdema accompanied or followed by extravasation of blood into the alveoli of the lung, rapidly developing fever, cyanosis, cerebral œdema and death. The first tendency to pulmonary œdema calls for the prompt and free use of dry cups, the hypodermic administration of strychnia, digitalis and atropin and the free use of oxygen. By these means promptly and vigorously used, some of these cases may be saved. The second complication is that of acute cerebral disturbance, usually in the form of mania. This requires restraint, sedatives, isolation, elimination and often the removal of the patient to a hospital for mental diseases.

Care must be taken never to give a prognosis in a case of acute toxæmia in later gestation. Fully two weeks must elapse after the storm is over before the patient can be said to be safe. Pulmonary œdema and lung complications may develop at any time within that period and prove fatal. After the patient has apparently recovered she must be observed for at least a year to ascertain that nephritis does not develop and become chronic. So soon as the patient can swallow she should be given milk and water in equal parts as freely as she will take it. When she can swallow readily, salts, as freely as she can take it, may be given to advantage for several days until the patient's bowels move very copiously and she is thoroughly saturated with the saline.

The treatment of the hepatic variety of the acute toxæmia of pregnancy is essentially the same as that just described. It may seem irrational to bleed a patient with low pulse tension, but we do not bleed without following this by intravenous saline transfusion, and we do not bleed for pulse tension, but for the toxæmic condition present.

In thyroid cases a cautious trial may be made during pregnancy of thyroid extract and often the patient's condition may be considerably improved. Labour must be avoided and in the experience of the writer the patient should be delivered by elective Cæsarean

section as near term as possible. This avoids the dyspnoea and the great general disturbance which labour produces in these patients.

The treatment of an infant born of a toxæmic mother consists in copious irrigation of the intestines, warmth, the free administration of water, predigested milk and thorough and frequent cleansing of the skin. The prognosis in these cases is doubtful or grave.

I cannot close without calling your attention to one of the most serious complications of the acute toxæmia of late gestation accompanied by albuminuria and high pulse tension. I refer to accidental separation of the normally implanted placenta. May I again illustrate this by a recent clinical experience. A multipara was brought to the Maternity Department of Jefferson Hospital with indefinite pain in the uterus, disturbance of pulse, moderate headache, and moderate oedema of the lower extremities. On examination the uterus was hard and tender, pulse tension 180, the urine contained serum, albumen, and casts in abundance. The foetal heart sounds could not be heard clearly, but were possibly detected as faint and irregular. The patient was very desirous of saving the child. She arrived at the clinic hour, was immediately taken to the clinic, anaesthetized with nitrous oxide and oxygen, and I delivered her by abdominal Cæsarean section while an assistant bled and transfused. The placenta was found partially separated. The uterus contained considerable clotted blood. The child was, fortunately, living and survived. While the patient was on the operating table the stomach was copiously washed out and calomel and soda left within. On her return to the ward, she was treated by the continuous instillation of sodium bicarbonate solution by the drip method. Her headache and uncomfortable symptoms were at once relieved and she made, with her child, an uninterrupted recovery. Successful lactation developed.

May I ask you to disassociate the acute toxæmia of pregnancy of the nephritic, hepatic or thyroid variety from inevitable convulsions and also inevitable labour. It has been my experience to see patients under active treatment weather the storm of toxæmia without convulsions and subsequently give birth to living children. But a few days ago a Spanish woman in a condition of great filth and neglect was brought to the Maternity Department of the Jefferson Hospital in violent convulsions. Under the treatment described, she was made to eliminate, her convulsions ceased and she became conscious after passing through several days of great mental excitement. Perhaps two weeks after this storm had ceased, she gave spontaneous birth to a living and vigorous child.

## FOCAL INFECTION AND CHRONIC URTICARIA

BY HUGH MACKAY, M.D.

*Winnipeg*

**B**Y general consent, both of the profession and of the laity, the usual causative factor in this distressing disorder is hypersusceptibility or sensitization to certain foodstuffs. When these articles of diet are ingested, the characteristic outbreak in the skin supervenes. While the phenomenon is accorded universal recognition, the *modus operandi* in its development is not set forth in the literature in standard works on dermatology.

In the judgement of the writer, the majority of these patients, perhaps all of them, are sensitized because they are infected, and when the foci of infection are located and eradicated, the sensitization to these particular foods ceases to exist. The case histories of the patients exhibited this evening are calculated to buttress this hypothesis from the clinical side. In these chronic cases, certain common characteristics are frequently observed marking the evolution of the affection. Beginning with a few superficial, scattered, evanescent lesions, the disorder grows progressively worse, becomes more widespread, is characterized by great chronicity, shows no disposition to spontaneous cure, and with the lapse of time, lesions of the giant urticarial or angio neurotic oedema type are interspersed with those of the common and more innocent variety. Invasion of the mucous membrane of the mouth is usually a late accompaniment of the disease and should always be viewed with apprehension, since oedema of the glottis, with serious and even fatal outcome may eventuate. A disorder capable of giving rise to so much mischief challenges our attention and calls for a more sympathetic attitude in the profession at large, towards this class of sufferers, than has hitherto been evidenced.

The orthodox methods of therapeutic attack in these pathological conditions are notoriously inadequate. In the effort to achieve something of more lasting benefit, several cases have been under review in my clinic in the General Hospital and in my private

practice, which have been studied and treated from the viewpoint of a possible infection. Efforts have been directed towards removing probable foci of absorption, and observations have been made as to the clinical value of autogenous vaccines administered for the relief and cure of the disease. The patients exhibited this evening demonstrate the results of this line of treatment.

Case 1. Mrs. K., age thirty-six, chronic urticaria of five years' duration, with angio neurotic cedema symptoms. No interval of complete freedom during these years; semi-invalided in consequence of dietetic restrictions, physical discomfort and mental disquietude and unrest. The teeth were overhauled without relief. Recurring attacks of tonsillitis were noted, both antedating and during the continuance of the eruption. The tonsils looked normal, but the history, I thought, warranted their removal. Patient was told frankly it was an experiment, but she requested a trial of the method. Tonsillectomy was performed in January, 1917, by Dr. George Fletcher. Several subcutaneous injections of an autogenous streptococcic vaccine from the tonsil were given. Improvement was gradual. It took four or five months for the skin to clear up. Since then there has never been a trace of the lesions. The trail of their comings and goings is obliterated. The patient is on unrestricted diet, and has completely regained her usual health and strength.

Case 2. Mr. P., age forty-three, urticaria developed June, 1917; came under observation February 18th, 1918. There have been no entire cessations of the characteristic expressions of the malady since the initial invasion, with the exception of a few days in September, 1917, when he was obliged to take a holiday to avoid a breakdown in his health. The efflorescence immediately recurred when he went back to work. He had rheumatism with purpura in 1901 and again in 1902. On July 28th, 1917, Dr. Washington removed the tonsils. Considerable improvement in the skin condition ensued, angio neurotic cedema symptoms were still present when he came under my care in February, 1918. X-ray examination of the teeth revealed multiple rarefied areas. These were cleared up by extraction of the affected teeth. An autogenous streptococcic vaccine from the teeth was administered. In six months the lesions had all faded away. He has had no further outbreak. He denies himself nothing in the way of diet. Convalescence seems fully established.

Case 3. Mr. M., age nineteen, eruption appeared ten years ago and has persisted practically ever since. The teeth showed



probable areas of infection, in consequence two of them were removed, with no apparent benefit. As a history of frequent attacks of tonsilitis was elicited, Dr. Washington removed the tonsils on January 30th, 1919. A mixed vaccine was prepared from the tonsils, and small doses were injected at weekly intervals. Gradual improvement took place. He is still under observation and treatment.

#### CONCLUSIONS

1. These infections are usually from multiple foci, and generally in the buccal cavity.
2. Where the teeth are the source of trouble, information furnished by the x-ray is indispensable to a proper appreciation of the pathological state.
3. To meet with success, operative interference must be thorough and far-reaching. Slipshod methods invite failure.
4. Exacerbations in the efflorescence have frequently been observed immediately following the removal of septic foci.
5. In recent infections, the removal of the focus alone has been followed by symptomatic cure.
6. In chronic cases, the vaccines appear to be of service in hastening resolution and building up immunity. They should be exhibited with caution, since anaphylactic phenomena are specially prone to appear in the victims of this distressing disorder.
7. In urticaria, an interval of from three to six months should be allowed after removal of foci before a symptomatic cure may be confidently looked for and the maximum amount of benefit derived.

My thanks are due Dr. Boyd of the pathological department, and Dr. McMillan of the x-ray department, for their co-operation in carrying on these studies.

## AURICULAR FLUTTER AND ITS TREATMENT

BY JONATHAN MEAKINS, M.D.

*Royal Victoria Hospital, Montreal*

**A**URICULAR flutter is a specific form of auricular tachycardia in which the auricular rate is over 200 per minute, and frequently in the region of 300 per minute. There is associated with this a partial heart-block; consequently the ventricular rate may be one-half, a third, or even less than a fifth the rate of the auricle. The pulse is not necessarily regular, in fact it is frequently irregular, which is due to the ventricle responding to an irregular ratio of the auricular contractions. It is quite distinct from auricular fibrillation, although there is a close relationship between them. Its distinction from auricular tachycardia of a slower rhythm is more or less arbitrary, but it is essential, until more is known concerning the pathology of all forms of auricular acceleration.

Auricular flutter is much commoner than is usually thought. The reason being that thorough systematic examinations are not made on all cases of constant or intermittent tachycardia. The more diligently this condition is looked for, the more often is it found.

It may be recognized in a variety of ways. The most conclusive method of recognition is by the electro-cardiograph. Here there is usually found a complex of distinctive characteristics. The auricular deflections are pronounced, and follow each other in rapid succession with scarcely any interval. In fact it is only in the slow rhythms of auricular flutter (200-240) that any interval is appreciable. The ventricular complex is of normal type, and is usually superimposed upon an auricular complex. Where there is a two to one heart block, the occurrence of auricular flutter may pass unrecognized, as every other auricular complex is buried in the ventricular deflection. Pressure on one or other vagus will, as a rule, reveal the condition by increasing the ratio of the heartblock and thus slowing the ventricle rate. This affords a ready method of detecting auricular flutter in cases of tachycardia. It is not absolutely diagnostic, but in cases where pressure on the vagi

definitely slows the pulse rate auricular flutter may be suspected. Polygraphic tracings are of great value in detecting this condition, information being obtained by the study of both the venous and radial tracings.

*Venous curves.* The character of the venous curves will depend upon the ventricular rate. When the ventricular rhythm is slow, particularly where complete heart-block is present, the auricular waves appear prominently between the ventricular waves. On the other hand, when the rate of the ventricle is rapid and there is a 1-1 rhythm or 2-1 heart-block, the venous tracings may be very misleading. Under these circumstances a ventricular form of venous pulse is present, and the auricular waves are obscured by the ventricular waves.

*Arterial curves.* The arterial waves may be regular or irregular. If the former, considerable difficulty may be experienced in making a diagnosis, particularly when the rate is rapid. If the arterial pulse beats are slow and regular, slight exercise will frequently exactly double the arterial pulse by changing a 4-1 to a 2-1 block. If the change of the heart-block occurs irregularly, then an irregular pulse will result. By careful measurements of the arterial pulse intervals, during these irregular periods, and by comparisons of groups of them, a diagnosis may be arrived at. Lewis has outlined this procedure in considerable detail.

*Symptoms.* The outstanding feature of this condition is tachycardia. This may be present week in and week out, for long periods. As a rule, however, it is intermittent, occurring after exertion of more than a limited amount. During periods of rest, the ventricle may return to about the normal rate. The auricular rate does not change more than a few beats per minute over very long periods of time. Cases are reported where it has remained constant for years. If the ventricular rate remains slow, no untoward symptoms result. But during the periods of rapid ventricular rhythm, great distress may be experienced, such as dyspnoea, orthopnoea, palpitation and weakness. If the rapid ventricular rhythm persist, signs of cardiac failure gradually appear, such as enlargement of the liver, passive congestion of the lungs, ascites, oedema and cyanosis. The duration of the rapid ventricular rhythm will determine the severity of the symptoms of failing compensation, and if it persist long enough, the patient's condition gradually passes into one of extreme gravity.

Auricular flutter usually occurs in patients over the fortieth year, although a few cases have been reported under this age.

It occurs three times as frequently in men as in women; as a rule, the women are younger than the men. Evidence of an endocardial lesion is not the rule, but is more frequent in women than in men.

*Treatment* One of the most important points about auricular flutter in so far as the patient and the physician are concerned, is the good results which may be obtained through proper treatment. This consists of the use of digitalis in large doses until auricular fibrillation occurs, and then if the digitalis be stopped, the tendency is for the normal rhythm to return. Failure of cure is usually due to one of three causes. First, intolerance of digitalis by the patient; second, cessation of treatment at too early a date; and third, inability to produce fibrillation before toxic symptoms appear even when the digitalis is tolerated in large doses.

I will give in detail several cases to show the method of treatment and probable causes of failure.

Case 1. Mrs. H., aged fifty-three, housewife. She had chorea at six years of age, and rheumatic fever at forty-three and fifty-two. She had always had to work hard, and had had six children. Following the attack of rheumatic fever at forty-three, she complained of dyspnoea and palpitation. In 1912, she was admitted to the Royal Victoria Hospital with acute polyarthritis. The pulse was 92, regular and of good volume. Blood pressure systolic was 100 Mm. Hg. The cardiac dulness was 3 cm. and 10 cm. to the right and left of the midsternal line. There was a presystolic thrill, and a presystolic and systolic murmur with a snapping first sound at the apex. The patient was discharged improved. In May, 1914, she was readmitted to hospital with precordial pain, dyspnoea, palpitation, cough and anuria. A polygraphic tracing was taken, and the diagnosis made of probable auricular flutter. She was discharged improved with instructions to return in a month for observation. She returned in two months complaining of precordial pain, dyspnoea, palpitation, cough, anuria, cedema, ascites and enlarged liver. The cardiac dulness was 5 cm. and 12 cm. to the right and left. Auscultatory signs were unchanged. Pulse was 145 per minute. The record of the pulse rate and treatment are given in Table I.



TABLE I

Date	Method of examination	V's Rate	A's Rate	Digitalis given daily	Remarks
Sep. —, 1912	Pulse count.	92	..	.....	Pulse regular.
June 12, 1914	Polygraphic.	60	280	.....	Irregular 2 : 1 heart-block with 4 : 1 and 5 : 1 periods—some rapid periods—pressure on rt. vagus slows pulse conspicuously.
July 28, 1914	Electrocardiographic	145	290	Tinct. m. exx.	Pressure on rt. vagus slows pulse to 90 irregular 4 : 1 heart-block.
July 31, 1914	Electrocardiographic	97	290	Tinct. m. exx..	Irregular 2 : 1 heart-block and 4 : 1 periods.
Aug. 4, 1914	Electrocardiographic	73	290	Tinct. m. lx...	Regular 4 : 1 heart-block.
Aug. 5, 1914	Pulse count.	48	..	Tinct. m. xlv..	Regular—Probably 5 : 1 heart-block.
Aug. 8, 1914	Electrocardiographic	50	Fib'n	Stopped. ....	Irregular pulse.
Aug. 17, 1914	Electrocardiographic	60	Fib'n	.....	Irregular pulse.
Aug. 26, 1914	Electrocardiographic	89	89	.....	Irregular pulse due to ventricular extrasystoles.
Mar. 18, 1919	Electrocardiographic	80	80	.....	Regular pulse.

This patient was given a little over seventeen drachms of the tincture digitalis in the course of ten days before auricular fibrillation was induced. Since the return of normal rhythm on August 26th, 1914, she has had no symptoms indicative of paroxysmal tachycardia, and in spite of her endocardial lesion she is leading a useful and comparatively comfortable life.

Case 2. J. R., male, aged sixty-two, gate-keeper. For many years he had taken alcohol to excess. No venereal or rheumatic history. During the fall of 1911 he began to suffer from dyspnoea and palpitation. On March 1st, 1914, he suddenly became much worse and soon suffered in addition from orthopnoea, cedema, and ascites. He was admitted to hospital on September 13th, 1914.

Examination of the heart showed it to be rapid and irregular in rhythm. The transverse cardiac dulness measured 17 cm. and there was a faint systolic murmur at the apex. Radial arteries were thickened and the systolic blood pressure was 100 Mm. Hg.

A record of the cardiac rate and treatment is detailed in Table II.

TABLE II

Date	Method of examination	V's Rate	A's Rate	Digitalis given daily	Remarks
Oct. 9, 1914	Electrocardiographic	120	300	.....	Irregular—2 : 1 heart block with 3 : 1 and 4 : 1 periods.
Oct. 10, 1914	.....	..	..	Tinct. m. exx..	.....
Oct. 11, 1914	.....	..	..	Tinct. m. xc..	.....
Oct. 16, 1914	Electrocardiographic	73	293	Tinct. m. xc..	Regular 4 : 1 heart-block
Oct. 22, 1914	Electrocardiographic	80	Fib'n	Stopped. ....	Irregular....
Oct. 25, 1914	Electrocardiographic	83	300	Tinct. m. xc..	Irregular 3 : 1 heart-block with 4 : 1 periods.
Oct. 28, 1914	Electrocardiographic	79	Fib'n	Tinct. m. xc..	Irregular.
Oct. 30, 1914	Electrocardiographic	75	300	Tinct. m. xc..	Regular 4 : 1 heart-block.
Nov. 2, 1914	Electrocardiographic	80	Fib'n	Tinct. m. xc..	Irregular.
Nov. 6, 1914	Electrocardiographic	72	72	Stopped. ....	Irregular—premature auricular beats.
Mar. 17, 1919	Electrocardiographic	80	80	.....	Regular.

This case was most resistant to treatment. It is true that auricular fibrillation was induced after approximately the same amount of digitalis as in the first case. But it is a striking example of a number of cases which revert to the rhythm of flutter instead of to a normal rhythm. It is necessary under these circumstances to continue the treatment with digitalis inducing fibrillation repeatedly until the normal rhythm predominates again. In this case it was necessary to do this three times. The periods of fibrillation were comparatively short, apparently lasting about thirty-six hours, except the last which persisted for four days and then gave place to a normal rhythm. This has remained constant apparently, and after four years the patient states he has had no return of the symptoms of tachycardia.

Case 3. M. F., male, aged sixty-six, retired banker. This patient was in hospital on many occasions for various surgical conditions and operations, between November, 1912, and June, 1915. In March, 1914, it was first noted that he had an irregular pulse "probably due to extra-systoles." He returned to hospital in October, 1914, suffering from an accidental gun-shot wound of the back. He complained of having been troubled during the past few months with palpitation, dyspnoea and precordial oppression. The pulse was irregular, and on December 13th, 1914, an electrocardiographic tracing showed numerous premature auricular beats and ventricular extra-systoles. On December 20th, 1914, the pulse rate suddenly increased to 156 per minute and another tracing revealed an auricular tachycardia probably due to auricular flutter. He was discharged from hospital without special cardiac treatment. He returned on June 13th, 1915, with an irregular pulse rate of 140, and was operated upon for inguinal hernia. He stood the operation well, and on July 9, was readmitted for cardiac treatment.

In Table III, a detailed account is given of the cardiac rate and rhythm over a period of four years, with a synopsis of the digitalis treatment.

TABLE III

Date	Method of examination	V's Rate	A's Rate	Digitalis given daily	Remarks
Dec. 19, 1913	Pulse count.	76	..	.....	Regular.
Mar. 25, 1914	Pulse count.	80	..	.....	Irregular, extra-systoles.
Oct. 16, 1914	Pulse count.	90	..	.....	Irregular, extra-systoles.
Dec. 13, 1914	Electrocardiographic	78	78	.....	Irregular—numerous premature auricular beats and ventricular extra-systoles—Displacement of normal pace-maker over short periods
Dec. 21, 1914	Electrocardiographic	156	312	.....	Regular 2:1 heart-block.
June 13, 1915	Pulse count.	140	..	.....	.....
July 9, 1915	Electrocardiographic	156	312	.....	.....
July 10, 1915	Pulse count.	128	..	Infus dr x ..	Irregular.
July 12, 1915	Pulse count.	100	..	Infus. dr. xx...	Irregular.

TABLE III.—*Continued*

Date	Method of examination	V's Rate	A's Rate	Digitalis given daily	Remarks
July 20, 1915	Pulse count.	72	..	Infus. dr. x....	.....
July 24, 1915	Pulse count.	76	..	Infus. dr. vi....	.....
July 28, 1915	Pulse count.	72	..	Infus. dr. x....	.....
July 30, 1915	Electrocardiographic	78	312	Infus. dr. x....	Irregular 4 : 1 heart-block—ventricular extra-systoles.
Aug. 31, 1915	Pulse count.	70	..	Infus. dr. x....	Discharged, no graphic evidence of disappearance of rapid auricular rate.
Sep. 13, 1915	Pulse count.	120	..	.....	Irregular.
Sep. 17, 1915	Electrocardiographic	78	312	.....	Irregular 4 : 1 heart-block with 2 : 1 and 3 : 1 periods.
Sep. 27, 1915	Pulse count.	152	..	Tinct. m. xlv..	Regular—probably 2 : 1 heart-block.
Oct. 5, 1915	Electrocardiographic	70	Fib'n	Tinct. m. xxx.	Irregular.
Oct. 12, 1915	Pulse count.	76	..	Tinct. m. xxx..	Discharged—no graphic evidence of disappearance of rapid auricular rate.
Nov. 27, 1915	Pulse count.	110-152	..	.....	Irregular.
Feb. 21, 1916	Pulse count.	140	..	.....	Irregular.
July 6, 1916	Pulse count.	130	..	.....	Irregular.
July 7, 1916	Electrocardiographic	90	312	.....	Irregular 4 : 1 heart-block with 2 : 1 and 3 : 1 periods.
Dec. 21, 1916	Pulse count.	130	..	Pulv. gr. iii...	Irregular.
Jan. 6, 1917	Electrocardiographic	82	312	Pulv. gr. iii...	Irregular 4 : 1 heart-block with 3 : 1 periods.
May 15, 1917	Pulse count.	140	..	Pulv. gr. 1½	Irregular.

This case had a persistent auricular flutter for about two and a half years. The condition was recognized and treatment instituted, but in spite of taking seventy ounces of the infusion of digitalis over a period of two months, no impression was made on the auricular rate. A short while later, however, auricular fibrillation was induced by comparatively small doses of the tincture. But the treatment was not persisted in until the normal rhythm was re-established.

This case is cited to demonstrate the necessity of persistent



and closely controlled treatment until the normal rhythm has definitely returned. He remained a chronic invalid for many months, due to the symptoms consequent upon periods of rapid ventricular rhythm, probably a reduction of a 4-1 heart-block to a 2-1 heart-block when the auricular rate was over 300 per minute. This patient died in 1918 of cardiac failure.

It will be seen from these cases that auricular flutter occupies a definite place in tachycardia. There is no evidence that it ever disappears spontaneously, in fact there are on record cases giving a history extending over many years. There are frequently periods of exacerbations of the general symptoms which usually follow periods of increased exertion or excitement. These are the result of a diminution in the degree of heart-block when a 4-1 rhythm gives place to a 2-1. Rest and digitalis in small doses will increase the heart block to 3-1, or 4-1; but the patient is not cured of the condition, and sooner or later, depending upon the amount of physical or mental work undertaken, the untoward symptoms will return.

If once the abnormal rhythm of flutter has been displaced by the normal rhythm, it is rare that the pathological condition returns. If it does it will be within a few days of the re-establishment of the normal rhythm. Another course of treatment will promptly repeat the cure. More than one recrudescence of flutter is extremely rare.

There are a certain number of cases in whom a cure is not possible. Amongst these are the cases who have an intolerance to digitalis, toxic symptoms being produced by comparatively small doses. There are other cases in which digitalis may be given in very large doses before toxic symptoms appear, without auricular fibrillation being produced. In such cases a complete cure is not possible. But great relief may be obtained by taking small doses of digitalis constantly, as in auricular fibrillation. The digitalis reduces the conductivity of the auriculo-ventricular node, so that a 4-1 or 5-1 heart-block may be almost constant in spite of accomplishing considerable physical exertion. Under such circumstances these patients enjoy a comparatively comfortable and useful life.

In conclusion I wish to emphasize the frequency of auricular flutter, the importance of its recognition, and the persistent treatment by digitalis under proper control until the normal rhythm is re-established or symptoms of digitalis poisoning develop necessitating the abandonment of the treatment.

NOTES ON DIAGNOSIS IN AFFECTIONS OF  
THE URINARY TRACT

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**D**IAGNOSIS in urology, as in all other branches of medicine and surgery, being all important, any contribution to this subject, which will tend towards a better understanding of its general principles, its successes and failures, should be welcomed by all, if such contribution will prove, in some small degree, of practical benefit to all concerned—patient, general practitioner or specialist.

When the practitioner undertakes the care of a patient, he assumes responsibilities that he cannot avoid; he undertakes the moral obligation to supply or to have supplied to that patient all means and mechanisms at the disposal of the profession that are necessary for securing the relief desired, and this whether the practitioner himself is capable of administering them or not. Lack of familiarity with the use of the x-ray machine, or failure to possess one, does not excuse him for depriving his patient of the advantages of such a machine when needed. The same reasoning applies to the ophthalmoscope, the cystoscope, the bronchoscope, or any other of the equipment so useful and so often essential for diagnosis in modern medicine or surgery.

Another obvious fact is that no practitioner who undertakes the care of patients has any right to disclaim knowledge of appliances used in the various specialities and from such lack of knowledge justify himself for the often used doctrine that "Nothing more can be done" in a given case. No one has the right to make any such ex-cathedra statement, and many a patient has, doubtless, been assisted to his grave on account of it. A better, truer, and more serviceable axiom would be, "Something can always be done," and it might be remarked, most often through diagnosis.

That backwardness and inadequacy in the diagnoses of lesions of the urinary tract does exist is a fairly widely accepted fact, and it is probable that a part of the difficulty may lie in the fact that the methods and technic of genito-urinary examinations, being of comparatively recent development, are not yet altogether familiar to

the profession at large, or that these methods and technic assume formidable proportions in the perspective of infrequent use and lack of practical experience.

In ancient times, Hippocrates and Cornelius Celsus pursued logical though primitive methods in making diagnosis and applying their deductions to the treatment of urinary retention, stone and other urinary affections. About the fifteenth century, as related by Guiteras, examination of the urine was resorted to, not only by the regular practitioner and university graduate, but also by the school of quacks known as uromancers or uroscopists. These quacks would gravely inspect the urine, passed into glass flasks, and immediately guess the illness and temperament of the patient, and then base a miraculous cure thereon.

Previous to a score of years ago, investigators of the greatest acumen had to resort to and rely on the evidences then attainable in genito-urinary diseases. These consisted mainly of symptomatology, plus any external evidences which were observable, and an examination of the urine. Under the stress of necessity, urologists became most skilful in refined analysis of symptoms, weighing at its full value every deviation from the normal, either as detected by them or as related by the patient. This art of deduction doubtless reached its ultimate degree of perfection in the hands of Record, of Fournier, Guyon, Sir Henry Thompson and Ultzman. The writings of Guyon fairly scintillate with logic and acumen as they relate the diagnostic estimate to be placed on the symptoms of urinary tuberculosis, urinary lithiasis, "painful cystitis," etc. The trouble came when patients were encountered with no urinary symptoms to analyze; where kidneys were destroyed by stone without a backache; where there was pus in the urine and little to indicate its source; hæmaturia, with no index of its causation or point of origin.

Diagnosis in these diseases has, during the last few years, undergone many phases of evolution as it has in other departments of medicine and surgery. The present day accomplishments in this field are due to the ability to turn the patient inside out, so to speak, and the plain demonstration of the cause and nature of his complaint by means of the various instruments of diagnostic precision. The development of these comprehensive diagnostic methods has accomplished the miracle of evident progress in urology; has developed the speciality of urology from venerology and has won this field from the domain of obscurity and empiricism to one of science and accomplishment.

While urology has progressed in the manner above mentioned, it is generally admitted that the profession at large has not kept pace with its progress. The ground for making such an assertion is the countless number of patients with genito-urinary complaints who suffer needlessly from month to month and year to year—ten, twenty, or more years, often—while under the care of practitioners who go no further in efforts at relief than to apply various "favourite prescriptions" for urinary symptoms or complaints. Instead of giving undivided attention to efforts at learning the source and causation of a hæmaturia, they supply drugs and measures for stopping the bleeding, which is the worst object that can be accomplished by them at that time. Instead of learning the origin and nature of an infection, they are industriously and empirically supplying "internal antiseptics", vaccines, urinary sedatives or soothing syrups that palliate, perhaps, but incidentally postpone the day of definite diagnosis and effectual relief. The failure of permanent relief is not due, in most of such cases to obscurity of the disease or difficulty in diagnosis, but to the fact that no effort to attain a real diagnosis is systematically or methodically made or even advised while the lesion is not far advanced. The precious time is spent on so-called treatment and a wonderful opportunity is wasted.

The necessity of method and a formulated plan in seeking a diagnosis in urinary complaints may be well illustrated by a case of prostatic obstruction. When such a diagnosis is made, certain factors are absolutely essential to make such diagnosis serviceable and nothing short of all of such factors will suffice. They must include definite information as to whether

1. The prostate is hypertrophied or atrophied?
2. Whether there is obstruction to urination?
3. If so, the relative amount of obstruction.
4. The form, physical characteristics, and nature of the obstruction.
5. The physical condition and functional activity of the allied organs (especially heart and kidneys).

If one learned the correct answers to the first four of these diagnostic points, operated, no matter how skilfully, but ignored investigation of the fifth point (condition and functional activity of allied organs), it might very easily prove to be another case of "successful operation, but the patient died"; because renal involvement, with unexpected suppression of urine, uræmia, and death may, and do, follow on the heels of successful operation in such



cases where this point is not thoroughly investigated. The answer to question number one determined by rectal palpation, the finger detecting whether the gland is unduly large, unduly small, or of approximately normal size; that to question number two by passing a soft rubber catheter directly after the patient has voluntarily urinated, which shows whether there is residual urine and its quantity, etc. Question number four can be most advantageously answered by the use of the cystoscope, which shows the conformation and character of the vesical neck and prostate. The answer to question number five can be determined by examination of the urine, physical examination of the heart, together with the application of such renal functional tests as are appropriate.

We will now briefly consider diagnosis as related to *pain; disturbances of urination; urinary findings, obscure infections and tuberculosis of the urinary tract.*

*Pain.*—A whole chapter might be written on pain and the absence of pain in genito-urinary diseases. Unfortunately the large proportion of these diseases are not ushered in by pain. Pain may be primary or secondary. Originating in a diseased or stric-tured urethra, the irritation may be reflected into the rectum, presenting the whole complaint, as far as the patient knows it, at that point; or *ascarides vermicularis* may display their vicious effect by reflected irritation from the rectum into the urethra, producing inordinate frequency or troublesome difficulty in urination. The pain of prostatic inflammation is frequently reflected into the glans penis; that of the ureter into the cord or testis; that of the seminal vesicles into the lower back, the rectum or the testis.

*Pain* in the loin in renal infection is caused by tension of the renal capsule. The pain and tenderness met in renal retention, in focal suppuration of the kidney and also fairly often in the hypertrophied kidney opposite to an infected kidney, is caused by such capsular tension.

The characteristic pain of renal tension is felt in the loin, usually as far back as the costo-vertebral angle; or anteriorly in the region of the gall bladder (in the corresponding region of the left side) or as low down as the appendiceal region.

On the other hand extensive destruction of the kidney substance, from calculus, tubercular or other infections, pyonephrosis, hydronephrosis of gradual development, tumour growth, or from almost any cause, may take place with little or no pain referable to the kidney.

Disturbances of urination—frequency and urgency of urination

are standard indications of irritation of one of the bladder orifices, urethral or ureteral. A healthy person should urinate from three to four times in twenty-four hours, and should not have to get up in the night for that purpose. It is practicable, therefore, to draw a fairly distinct line between the normal and abnormal frequency of urination.

That disturbances of urination, especially in women, are notoriously neglected by the profession, is admitted by all, and often, instead of taking steps to obtain a definite diagnosis of the cause of the disturbance, the physician prescribes a sedative or a simple irrigation. Bransford Lewis, of St. Louis, relates the case of a woman that came to his notice, who had been treated periodically for a chronic cystitis for thirty-eight years, who, on careful examination was found to be suffering from a simple stricture of her external meatus, which was completely cured by one month's treatment.

On the other hand, it is now generally recognized that cystitis as a disease *per se* is extremely rare, and is usually representative of some co-existing or antecedent infection, either in the upper urinary tract, or in the genitals. No longer are all cloudy urines thought of as cystitis, thanks to the modern methods of investigation such as the cystoscope, ureter catheter, endoscope and modern laboratory technic. Smith, of Boston, in eighty-seven cases of cystitis in women which he studied, showed that 80 per cent. were associated with renal infection. It would, therefore, seem a safe rule to say that infected urines *do not* represent cystitis until infections of the other genito-urinary organs have been ruled out by thorough and scientific investigation. Such investigation should include the urethra especially in the female, and in patients who would not be suspected of a previous gonococcal infection. Infection of the urethra by unclean, rough, or frequently repeated catheterization is very often the condition commonly and improperly called cystitis. It is not intended to suggest that infection of the bladder (cystitis) is not common through catheter infection, but it does imply that the bladder is carelessly regarded as the seat of a lesion, which can be shown to be in the urethra in many cases. In many such instances the cystoscope shows a normal bladder.

This form of urethritis is regarded as of little consequence just because the symptoms can so readily be explained and so obviously and promptly relieved. Complete cure, however, does not always follow this manifest improvement. In many cases there is a persistence of the subjective complaints, or a recurrence of

them after a time. The urine may show nothing pathological and a complete examination of the urinary tract (excepting the urethra) shows no abnormality; when the urethra is examined, the lesions of chronic urethritis are revealed and the history of catheter infection is recalled. Such observations would convince any practitioner of the advisability of submitting their patients with subacute or chronic cystitis which does not clear up promptly by the usual measures or which recur, to a thorough investigation of their urinary tracts.

*Urinary Findings.*—The percentage of albumin in the urine is not an accurate index of the efficiency of the renal function and cannot compare with urea or phenolsulphonephthalein estimations for this purpose. Every infection of the kidney pelvis is accompanied by enough parenchymatous inflammation to discharge, at least, a trace of albumin in the urine, but this amount may be so small as to be discoverable only by the most delicate laboratory methods.

Casts are almost as notable for their absence in renal infections as they are constant in non-bacterial nephritis. Absence of casts in no way modifies the diagnosis of bacterial nephritis in any of its forms. This fact is well illustrated in the urine findings of unilateral renal tuberculosis where the diseased kidney discharges pus and albumin, but no casts, the non-infected kidney, which is the seat of toxic nephritis, discharges albumin and casts but no pus.

Bacteria in the urine, distinguishable only by culture and unaccompanied by pus, signifies a lesion so slight that it is called "latent infection"; when bacteria are so numerous as to cloud the urine, there is a general catarrh of some portion of the urinary tract and the urine will nearly always contain as well a few pus and epithelial cells.

Pus in considerable quantity, if from the kidney pelvis, is likely to vary greatly in quantity at different times, being absent at one time and discharged in great quantities at other times. Such pus, if allowed to settle in the bottom of a glass, forms a muddy greenish sediment, flat upon the surface, adherent to the glass when decanted. Pus of this character means retention, and while it may rarely be from a bladder diverticulum, is almost invariably from a dilated kidney pelvis.

Pus does not account for albuminuria; red blood cells do.

Some characteristics of the urine which would arouse a suspicion of a tubercular infection are (the specimen for examination

should always be obtained by catheter): The urine is large in amount, is pale in colour, of low specific gravity, acid in reaction contains albumin, is hazy or opalescent from intermixture with pus which settles on standing, leaving a pale urine above. The sediment contains pus, and generally microscopic blood.

A characteristic of the sediment will be the absence of bacteria ordinarily found in a purulent urine, and should the urine prove sterile to culture methods, the probability of tuberculosis is strong. Evidence of the power of tuberculous urine to inhibit the growth of bacteria is shown by the fact that, if allowed to stand, the urine will remain clear for a considerable time after the sediment has settled; whereas, when bacteria multiply rapidly in the urine of ordinary pus infections, such urine soon becomes cloudy.

Mixed infections with the colon bacillus and various cocci occurs in a small number of cases changing the above condition. It is surprising, however, to see how persistently sterile a tuberculous urine remains even after repeated cystoscopic examinations.

*Hæmaturia.*—Macroscopic hæmaturia is a rare symptom in renal infections and, apart from stone and tuberculosis, suggests acute nephritis or pyelitis granulosa. Microscopic hæmaturia is, on the other hand, a common symptom in renal infections, and may suggest acute nephritis, tuberculosis or ulceration of the renal pelvis from other cause.

The presence of blood in the urine either macroscopic, or microscopic, should impel the practitioner in charge of the case to cause an immediate investigation of the source of the bleeding to be undertaken. It may be of the utmost importance to have such an investigation carried out while the bleeding is going on. When it stops, the urine may be as clear as crystal and give no tangible evidence of whence came the alarming hæmaturia of a few days before. Under no circumstances, short of actual danger from loss of blood, should an endeavour be made, by medicines, etc., to check the hæmaturia until opportunity is had for cystoscopic examination. To bring about a temporary clearing of the urine of blood is no real accomplishment, and the more successful the practitioner is in that endeavour, the more he is liable to injure the ultimate prospects of his patient.

In hæmaturia, to depend on the colour of the blood as indicating whether it came from the bladder, ureter or kidneys, proves too often fallacious, and should not be entertained as a scientific means of diagnosis. The only sure method of diagnosis is by the



cystoscope, ureteral catheter with, probably, the addition of radiography.

*Some Obscure Infections.*—"Urethral chill" or "catheter fever" is now known to occur only if the kidney be previously infected or damaged by retention. It is not, as was previously thought, a reflex nervous manifestation, but an acute exacerbation in a chronically infected kidney. In other words, "urethral chill" is a form of urinary septicæmia, and although it is excited by the passage of urethral instruments, it is known to be associated with a bacteriæmia, and an estimation of the fall of renal function immediately after its occurrence will show the renal character of the lesion. The cause of "urethral chill" appears to be the liberation into the circulation of bacteria from the prostate gland, abraded or contused by the passage of instruments. Guiteras, from his experience, is most strongly of the opinion that it is brought on by over instrumentation at the first visit of the patient, and lack of gentleness in instrumentation, and is, therefore, avoidable in a large proportion of cases.

The so-called "cold in the bladder" of the laity, and so common in the female, is an acute exacerbation of a chronic colon bacillus infection of the urethra, often accompanied by involvement of the contiguous bladder mucous membrane. The acute attacks are brought on by exposure to cold, errors in diet, highly acid urine, over-fatigue, etc.

The striking frequency of this urethral and vesical condition in association with tonsilitis and la grippe has been observed repeatedly. Hunner has called attention to the association of urethral and pharyngeal conditions, and the literature is now voluminous concerning the relations between, or the coincidental abnormalities of certain nasal structures and the urethra and genital organs.

In searches for focal points of infection in patients with obscure inexplicable symptoms pointing to a mild, but persistent septicæmia or toxæmia, the nose, throat, ear, teeth, gastro-intestinal tract and perhaps the upper urinary tract, are thoroughly investigated by the practitioner of to-day. How often, on the other hand, is the condition of the prostate and seminal vesicles properly and thoroughly investigated? That great neglect in the thorough search of these organs for foci of infection, is daily taking place, is acknowledged by all authorities. Such neglect, undoubtedly, is due to several factors: histories of old infections are not diligently inquired into. Physicians do not realize or have only a hazy idea of the symptomatology of prostatitis and seminal vesiculitis;

physicians have the fixed and erroneous idea that inflammations of these organs can only exist in men who have, at some time, suffered with a gonococcal infection. This erroneous idea has been conclusively exploded by Young, Geraghty and Stevens, who, in a careful survey of three hundred and fifty-eight cases of prostatitis, found a previous history of gonorrhoea in but 73.2 per cent. The remaining cases gave histories of masturbation, prolonged sexual excitement, traumatism, instrumentation, or infectious diseases. In 14 per cent. no ætiology could be obtained.

Palpation of a prostate harbouring such a focus of infection very frequently gives no information, for it often happens that an apparently normal gland will produce considerable microscopic pus after gentle massage, which may account for severe and protracted symptoms of obscure origin. If practitioners would bear in mind Caulk's brief and pithy summary of the symptoms which may be caused by seminal vesiculitis, such neglect of these organs would occur less often. Caulk's summary is as follows:

"Various chronic discharges, many chronic bladder distresses, the numerous referred pains in the back, sacral region, hips, legs, perineum, groins, testicles, and penis; recurrent epididymitis and sexual derangements; a vast array of joint processes of an infectious nature, such as articular rheumatism, rheumatoid arthritis, arthritis deformans, and hypertrophic arthritis, numerous renal and cardiac complications, digestive upsets and an array of nervous and mental manifestations which are almost inconceivable."

It may be further stated that the cure of the prostatitis and seminal vesiculitis, which always occur together, will, in the large majority of cases, give permanent relief from the aforementioned complaints.

*Renal Tuberculosis* is a disease of insidious onset, running a slow, progressive, downward course. It does not cure itself spontaneously, even in cases where the ureter becomes obliterated and the kidneys completely destroyed. These old kidneys often harbour the tubercle bacillus and are a source of danger.

Abdominal palpation in early tuberculosis of the kidney is very often negative and may frequently prove misleading. One kidney may be felt to be slightly enlarged and slightly tender; such a kidney is by no means to be considered the diseased one, as ureter catheterization often proves that the palpable kidney is the healthy organ, the increase in size and the tenderness being due to compensatory hypertrophy. Therefore, diagnosis by palpation should never be made without the confirmatory evidence of cystoscopy, etc.

Symptoms of tuberculosis of the kidney are not observable until the lesions connect in some way with the urinary passages. The actual pathological lesions always antedate the appearance of symptoms, sometimes for periods of months or years.

Bladder irritability is the most common early symptom and the one most often causing the patient to seek relief. This first shows itself in a gradually increasing frequency of urination, at first confined to the day, but later becoming also nocturnal in occurrence. Later on, when actual secondary bladder involvement has taken place, urgency and pain at the end of micturition occur. In some cases the symptoms are those of a cystitis during the entire course of the disease, there being at no time any symptoms referable to the kidney.

Hæmaturia is occasionally a very early and may be, for a time, the only symptom. It is apt to be slight and transient and the patient and the physician may be lulled into a false sense of security by its disappearance. The interval between the first hæmaturia and the occurrence of other symptoms may be considerable. Thompson-Walker cites a case in which such interval was two years. Pain may be entirely absent; many cases with extensive destruction of the kidney from tuberculous infection being known without pain of any kind occurring.

It was previously thought that renal tuberculosis was secondary to a primary bladder infection; we now know that the renal lesion, however, is always the primary one, and the infection of the bladder secondary. The bladder involvement may be secondary to a tuberculous process in the genitals in the male and, very rarely, the Fallopian tubes in the female. However, given a causeless progressive cystitis of insidious onset in a patient from twenty to thirty-five or forty years of age, which does not yield to ordinary treatment, in fact, is often made worse by treatment, the presence of renal tuberculosis is to be strongly suspected.

Such suspicions being aroused, the diagnosis is to be made by cystoscopy, together with a careful and exhaustive study of the urine and functional tests on the individual kidneys. The diagnosis can be positively made only by the demonstration of the tubercle bacilli in the urine together with pus and other products of inflammation either by microscopic examination of the sediment, cultural methods, or guinea pig inoculation.

The only way to prove that the tuberculous process is localized in the upper urinary tract is by cystoscopy with ureter catheterization and the examination of the unblended urine from one or both kid-

neys, at the same time employing one of the tests for kidney function. By this means the localization of the disease is carried out and the condition of the functional activity of the healthy organ can, at the same time, be ascertained.

In the search for tubercle bacilli in the urine, it is well to remember that the pus and epithelial detritus sedimentize much more readily than do the tubercle bacilli. Therefore, in a urine which evidently contains a good deal of pus, centrifuge at low speed for two or three minutes, pour off the supernatant urine into another tube and centrifuge at high speed until the urine is clear. The sediment so obtained will be slight in amount, but will contain a relatively large amount of bacilli. If the urine contains little sediment, the urine can be repeatedly poured off, and the tube refilled and recentrifuged.

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MCGILL sustains a severe loss by the resignation from the medical faculty of Colonel J. G. Adami. He has accepted the position of Vice-Chancellor of the University of Liverpool. For this position he is eminently fitted, as Dr. Adami holds all the qualifications necessary for the head of a large institution. Although he is best known as a pathologist, and as a compiler on pathology ranks among the very best, yet he is by no means a one-sided man. He has a breadth of knowledge seldom seen in medical men of to-day.

He was largely instrumental in organizing No. 3 General Hospital and went to England with this unit. He was retained in London in an administrative capacity and later assumed the duties of Medical Historian for the Canadian forces. The result of his work in the latter capacity is evident from the book just published in England, "The Story of the C.A.M.C." This book has been well received and favourably reviewed both in England and here.

Only recently Colonel Adami was appointed a Commander of the Order of the British Empire as an appreciation of his work during the war. The JOURNAL, in which he always took a great interest, extends to him its congratulations on the new appointment at Liverpool, and the recognition given to his work during the war.



## THE APPLICATION OF RUTHERFORD MORISON'S TECHNIQUE OF WOUND TREATMENT TO CIVIL SURGERY

BY FRASER B. GURD, B.A., M.D.

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AS a result of an experience of well nigh four years in war surgery, for the most part as surgical specialist with a Casualty Clearing Station in France, the writer has had an opportunity of becoming familiar with the several methods of wound treatment which have been devised to meet the new problems imposed upon the surgeon. The tremendous number of filthily contaminated and infected wounds which result from injuries by modern fire-arms have formed the most important part of these problems.

It is my opinion that of these methods the one that will most frequently prove helpful to the civil surgeon is that outlined by Mr. Rutherford Morrison. This method is commonly referred to as the "Bipping" of wounds.

The following quotations from Mr. Rutherford Morrison's articles indicate the claims made by him for his technique, and also outline the essential features of his method of treating wounds. It must be borne in mind that the wounds referred to by him are infected war wounds as seen in England, at a stage when the dangers of fulminant gas gangrene were largely past.

Morison writes: "It has been proved that with the aid of antiseptics, primary union after suture of infected suppurating wounds is possible. Towards the end of the year 1915, disheartened by the results of treatment (free drainage and frequent dressings), there gradually developed a new method of dealing with infected wounds which has proved efficient. Though not yet ideal in results it is more nearly so than any other so far evolved. My conclusion now is: that if it is possible to go to the bottom of an infected wound so that it can be thoroughly cleansed mechanically,

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Read before the Montreal Medico-Chirurgical Society, April 4th, 1919.

and suitable antiseptics be applied, the wound can be closed at once with interrupted sutures, always with impunity, and many times with the prospect of finding it healed when the dressing is removed for the first time at the end of three weeks."

In civil surgery, traumatic wounds are of perhaps less frequent occurrence than are infective processes, such as furuncle, carbuncle, cellulitis of the hand and other soft tissues, appendix abscess, etc. It is, however, obvious that once the surgeon has incised such a focus he has for treatment a wound more or less comparable to that presented by the less severe type of infected war wound. The application, therefore, of the experience gained in the treatment of wounds in war to civil practice should not be difficult.

The essential features of the technique as employed by the author are as follows:

1. Exposure: (a) Incision; (b) Excision.
2. Mechanical cleansing: (a) Excision; (b) Curetage; (c) Scrubbing.
3. Application of antiseptics: (a) Alcohol; (b) B.I.P.P.\*
4. Suture: Either immediately or after the lapse of several days' packing with B.I.P.P. and paraffin gauze.
5. Infrequent dressings: *i.e.*, every five to ten days.

Incise the part thoroughly, if possible sufficiently to permit of visual inspection of all affected tissue; excise all necrotic tissue, and also the tissue which it is thought will ultimately slough as the result of either mechanical injury or malnutrition.

Arrest hæmorrhage as thoroughly as possible, preferably without the employment of ligatures, drain the wound and mop it and the surrounding skin with alcohol (or methylated spirit). Again dry and apply B.I.P.P. This must be well rubbed into the surface tissue with dry gauze or the gloved finger. All excess must be removed, leaving only a thin covering over the wound surface.

\* B.I.P.P. is prepared as follows:

R.	Bismuth subnitrate.....	1 part
	Iodoform.....	2 parts
	Liquid paraffin, about....	1 part

These ingredients are thoroughly mixed to form a thick paste. Vaseline and soft paraffin are useless substitutes for liquid paraffin. The paste need not be specially sterilized.

## ILLUSTRATIVE CASES

The following cases have been selected from a very large number treated by this technique in order that the application of the method to various types of cases may be more easily appreciated.

1. *Carbuncle*. Mr. S., suffering from a carbuncle at back of the neck, 7 cm. in diameter. The inflamed zone blocked off by local anæsthetic (novocaine). The crucial incision, reaching well beyond the hyperæmic borders, was made, and four triangular flaps thus formed, dissected up, and their under surfaces incised, all obviously necrotic tissue excised, bleeding arrested by packing, the wound mopped with alcohol and the excess of B.I.P.P. rubbed in. The cavity thus formed tightly packed with paraffin gauze in the centre of which is placed a small mass of B.I.P.P. First dressing seven days after operation showed a complete absence of hyperæmia and infiltration, no pus. Packing removed, adherent to its under surface a moderate amount of necrotic material. Except for two or three small patches, the wound is covered with healthy bright red, firm, granulations. Mopped with spirits, "bipped" and repacked. Seven days later second dressing, no pus, no necrotic patches lying in wound. The four flaps made at operation replaced in position and held by crossed adhesive strapping. Strapping removed five days later showing primary union with a small depressed crucial scar.

2. *Deep Cellulitis, Thenar eminence*. Patient presented himself at the outdoor clinic of the Montreal General Hospital, suffering from a markedly swollen hand, the whole dorsal of the hand was puffy and œdematous, the thenar eminence discoloured and showing a small amount of pus exudating from two small excised wounds. Incision under general anæsthesia commencing on the dorsum of the hand between the heads of the first and second metacarpal bones, and extending through the thenar eminence to the flexor surface of the wrist joint. The thenar muscles dissected free from overlying necrotic fascia, bleeding arrested, spirits, B.I.P.P., and paraffin gauze pack. First dressing five days after operation, pack removed, little or no purulent discharge on the dressings, a small amount of sloughing fascia still present. "Re-bipped" and packed. Second dressing seven days later, no pus, no œdema, healthy granulations throughout. "Re-bipped" and the flap-like fold of skin fixed in position by adhesive strapping. Ten days later soundly healed with little or no interference with function.

3. *Appendix abscess.* As a routine in cases of acute appendicitis the author has employed the method of smearing the muscle layers, skin and subcutaneous edges with B.I.P.P. prior to opening the abdominal cavity. By the employment of this technique, wound infections which are so commonly troublesome during convalescence have been largely avoided. In cases in which a localized abscess has been found, this has been treated as though it had been an abscess of the soft parts.

4. *The closure of granulating amputation stump of thigh with necrosis.* Cpl. H. F. Right thigh amputated about the middle one hundred and five days previously, guillotine amputation. Granulating stump approximately 7 x 3 cm. in size. X-ray shows sequestration of the lower end of the femur. Operation—excision of cone-shaped segment of tissue, including the whole of the granulating area and reaching down to bone. Sequestrum removed, bleeding arrested, spirit mopping, B.I.P.P., protected mattress sutures in layers. First dressing fourteen days after operation, sutures removed seventeen days, primary union. Under observation for seventy-one days following operation, union remained sound.

5. *Osteotomy, tibia and fibula during period of inflammatory reaction, and bone necrosis.* Sgt. R. T. Wound thirteen months gun shot wound, fracturing tibia and fibula close to ankle joint. Three operations have been performed in the hope of controlling the necrotic process. Large granulating wounds of both inner and outer aspect of leg, the latter communicating with the necrosis of the fibula. Marked mal-union of the tibia. Operation—excision of granulating tissue, and surface of fibula including dead bone. Cuneiform osteotomy of tibia, simple osteotomy of fibula. B.I.P.P., suture, in so far as possible owing to loss of skin. Result at the end of forty-five days, at which time the patient passed from under the author's observation, excellent. No cellulitis, arrest of bone infection, wounds almost completely epithelialized, foot in good position.

6. *Gun shot wound of leg, compound fracture of tibia with extensive pyogenic infection of calf.* This case was treated by the combined method of Morison and Carrel, the value of B.I.P.P. in protecting the bone from infection by the pus pouring over it is of interest. Pte. B. McC., aged twenty-seven, wounded October 30th, 1917, admitted to my care November 18th, 1917. Patient looked ill and anæmic. Temperature, 101°-103°; pulse 106-120. Injury of left leg, E—— and E—— wounds 4 cm. above the ankle



joint with comminuted and spiral fracture of the tibia. Both wounds discharging copiously. Diffuse cellulitis of inner half of the leg. November 19th, incision into infiltrated area failed to discover pus. Original wounds enlarged and loose bone fragments removed. Walls of bone cavity B.I.P.P. and packed with paraffin gauze. Severe post-operative reaction followed by some improvement; later elevation in temperature. Wound dressed for observation 23rd, 25th and 27th. November 29th, operation—incision 24 cm. long along inner border of tibia through soleus muscle. Large abscess cavity evacuated. Carrel tubes (four) inserted. Bone cavity repacked. December 1st, operation—dressing under anæsthetic, necrotic fascia excised, upper end of spiral fracture B.I.P.P., Carrel tubes (four). December 7th, has been dressed alternate days since operation. Tubes removed, B.I.P.P. and paraffin gauze pack applied without anæsthetic. December 10th, dressing under anæsthetic. Wound clean but for suppuration focus at upper end of spiral this nibbled with ronguer and packed with excess of B.I.P.P. and paraffin pack. Two mattress sutures inserted to commence approximation of tissues. Bone cavity repacked. December 15th, dressed—packing changed. December 19th, anæsthetic, both bone areas cleansed and repacked. Four mattress sutures inserted approximately skin edges to within .5 cm. January 15th, 1918, fourth dressing since last operation. Wound closed completely but at two points of packing. Will require anæsthetic for bone excision at these two points, lesion of bone is firm, in perfect position. January 21st, operation. Wounds dry and healed but far focus at site of original wound. This cavity much diminished in size. Further operation will probably not be necessary. Cavity repacked B.I.P.P. and paraffin gauze.

The following two cases are included and they demonstrate certain of the characteristic effects of poisoning.

7. *Gas gangrene, leg.* Gnr J. A., wounded July 5th, 1917. Massive gangrene of right calf. Operation—excision of gastrocnemius in toto, and of part of soleus. Wound "bipped", Carrel tubes also inserted. Severe wound of thigh, foul smelling infection, wound excised, B.I.P.P., paraffin gauze pack. For the following two days patient was drowsy and vomited a great deal, skin bronzed. Evacuated to Base. Note received from the Base dated July 20th, "Wounds examined July 10th, B.I.P.P. reapplied. July 16th, redressed, healthy granulations, eusol dressings. Distinct bronzing

of skin and conjunctivæ, also soreness of gums present upon admission, also greatly improved. Evacuated to England."

8. *Multiple wounds, bismuth stomatitis.* Pte. J. Penetrating wound of the right ankle joint; traumatic amputation, left forearm. Severe lacerating wounds of right thigh, left thigh, left shoulder and right hand. All wounds excised (circular forearm, left), "bipped" and sutured. For several days following operation, patient was drowsy and vomited. Temperature was somewhat elevated, and pulse rapid. Severe B.I.P.P. stomatitis occurred in this case.

Note the above case showed the most marked evidences of both iodoform and bismuth poisoning of any which have been treated by the author. It will be noted that in this case a very extensive area of tissue was involved. The patient made an uninterrupted recovery.

#### DISCUSSION

The foregoing cases have indicated, I trust, certain of the usefulnesses of Morison's technique. The objections to its employment are (1) the length of time consumed at operation as compared with more temporizing methods of treatment; (2) more complete anæsthesia required; (3) subsequent examination by means of the x-ray are more or less interfered with; (4) poisoning. The latter objection is the one which has been brought forward most seriously. It is the opinion of those who have used the method most that if properly employed, and a minimal amount of B.I.P.P. be left in the wounds, and too large surfaces are not subjected to treatment by it, important poisoning will not occur. During the past six months, *i.e.*, while on duty in Canada and dealing with less severe types of wounds, I have employed it in scores of cases, at no time with any untoward manifestations. It is my opinion that if not more than one square foot of tissue has been treated, the danger of any important poisoning is very improbable. I have as a routine made use of the suggestion made by Colonel Gordon Watson to administer sodium bicarbonate to all cases, both before and after operation.

The advantages of the method are (1) the absence of clinical signs of inflammation, there is no redness, heat, pain, or swelling, and generally fever is absent; (2) the surrounding skin does not become soggy, but remains soft, supple and unsodden, the dressings are relatively free from pain; (3) as compared with any method of daily or more frequent dressings, there is a great increase in the

comfort of the patient, immobilization of bone fragments is more easily carried out, and there is great economy in the use of dressing materials. In evidence of the economy in dressing materials, the following notes based upon an investigation carried out by the author at the request of Sir Robert Jones, in Aldersley Military Orthopædic Hospital, Liverpool, a year ago, are given. During the month of October approximately the same number of cases with open wounds were in Ward C of Highfield Military Hospital as during the month of December. During October the cases were treated for the most part by means of daily hypochlorous dressings; the dressing materials used consisted of forty-eight rolls of cotton and six hundred yards of gauze. During December, although the type of wounds in the ward was much more important, the consumption of materials dropped off to sixteen rolls of cotton and three hundred and sixty yards of gauze.

For a period of five weeks ending January 10th, 1918, the number of dressings which would have been performed under the daily dressing routine would have been from one thousand and fifty to one thousand four hundred. Actually, two hundred and sixty-seven dressings were performed.

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THE special summer courses offered by the Medical Faculty of McGill University to medical officers who have returned from overseas service, began June 16th, and are to continue for a period of three months. The work will be entirely clinical and will be carried on in the wards and out-patient departments of the hospitals. The two courses comprise, one for the general practitioner and one for those who may desire to do special work in one or more branches.

The following course is offered for the general practitioner:

Surgery—Ward rounds daily. Operations open to candidates and opportunity offered to assist. Out-patient work in general surgery and in surgical specialties. Urology, orthopædics, etc.

Medicine—Ward rounds daily. Clinical laboratory work at stated periods. Assisting in out-patient departments, general medicine and medical specialties—pediatrics, neurology, etc.

The course also embraces work in obstetrics, gynæcology and pathology. Instruction in post-mortem work will be given as occasion arises. Additional courses will be offered in ophthalmology, oto-laryngology, urology, pediatrics, pathology, and bacteriology. In these special courses it is proposed that the returned officers selecting them shall act as assistants to the heads of clinics.

PRELIMINARY REPORT ON THE RECONSTRUCTION OF THE CIRCULATION OF THE LIVER, PLACENTA AND LUNG IN HEALTH AND DISEASE

BY LOUIS GROSS, M.D.

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PURSUING studies of the vascular anatomy of organs by a barium sulphate gelatine injection method previously described<sup>1</sup> I present here a preliminary report of several observations in addition to those of my previous publications<sup>2</sup>.

Briefly, to repeat once more, the method consists in a saline irrigation followed by injection of the blood vessels with a barium sulphate emulsion in gelatine. This is carried out at a temperature 40°C. and under a pressure of 120 m.m. of mercury; stereoscopic skiagraphs are then taken of the formalin hardened organs.

This work has, as formerly, been carried out under the direction of Professor Oertel in the laboratories of the Royal Victoria Hospital and McGill University.

The first slide presents a liver injected through the portal vein. It is to be observed that the latter divides into two large branches which run transversely through the liver. From this ascending and descending branches are given off which run perpendicularly close to the edge of the liver with very little alteration of lumen. There it abruptly breaks up into a peculiar rigid network of capillaries which make up the bulk of the portal circulation.

The next slide is an injection of the normal venous circulation of the placenta. Here we observe that each cotyledon presents a comb-like arrangement of sinusoids which join to form large veins. One vein drains each cotyledon, and all the veins join to form the umbilical vein.

The next slide demonstrates the striking contrast of arterial circulation of the placenta to that of the venous. We observe that the two arteries break up into several long primary branches which, as they arch over the cotyledons, give off a short secondary branch

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Read before the Montreal Medico-Chirurgical Society, March 31st, 1919.



ASSOCIATION JOURNAL

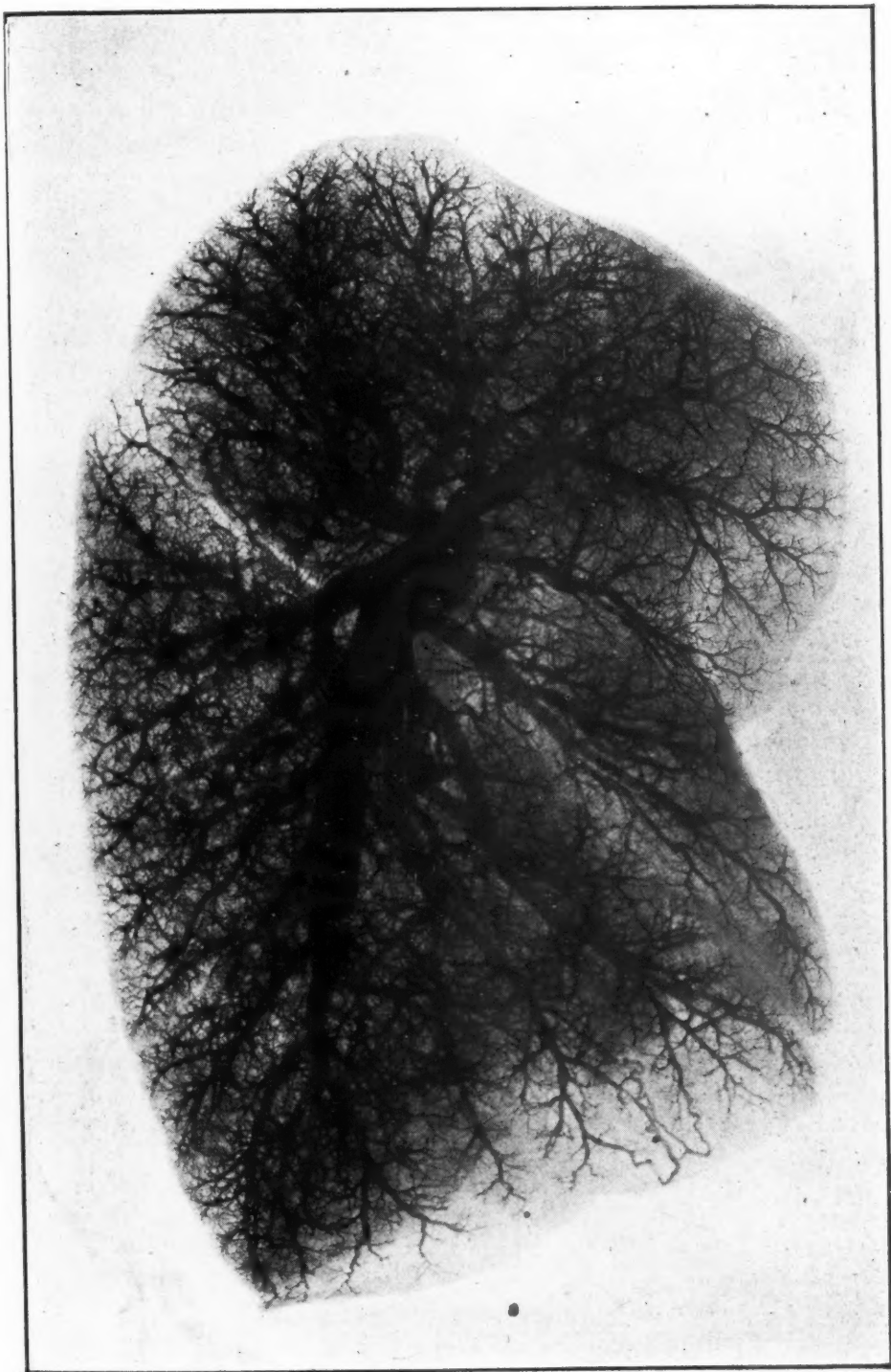


FIG. 1

THE CANADIAN MEDICAL

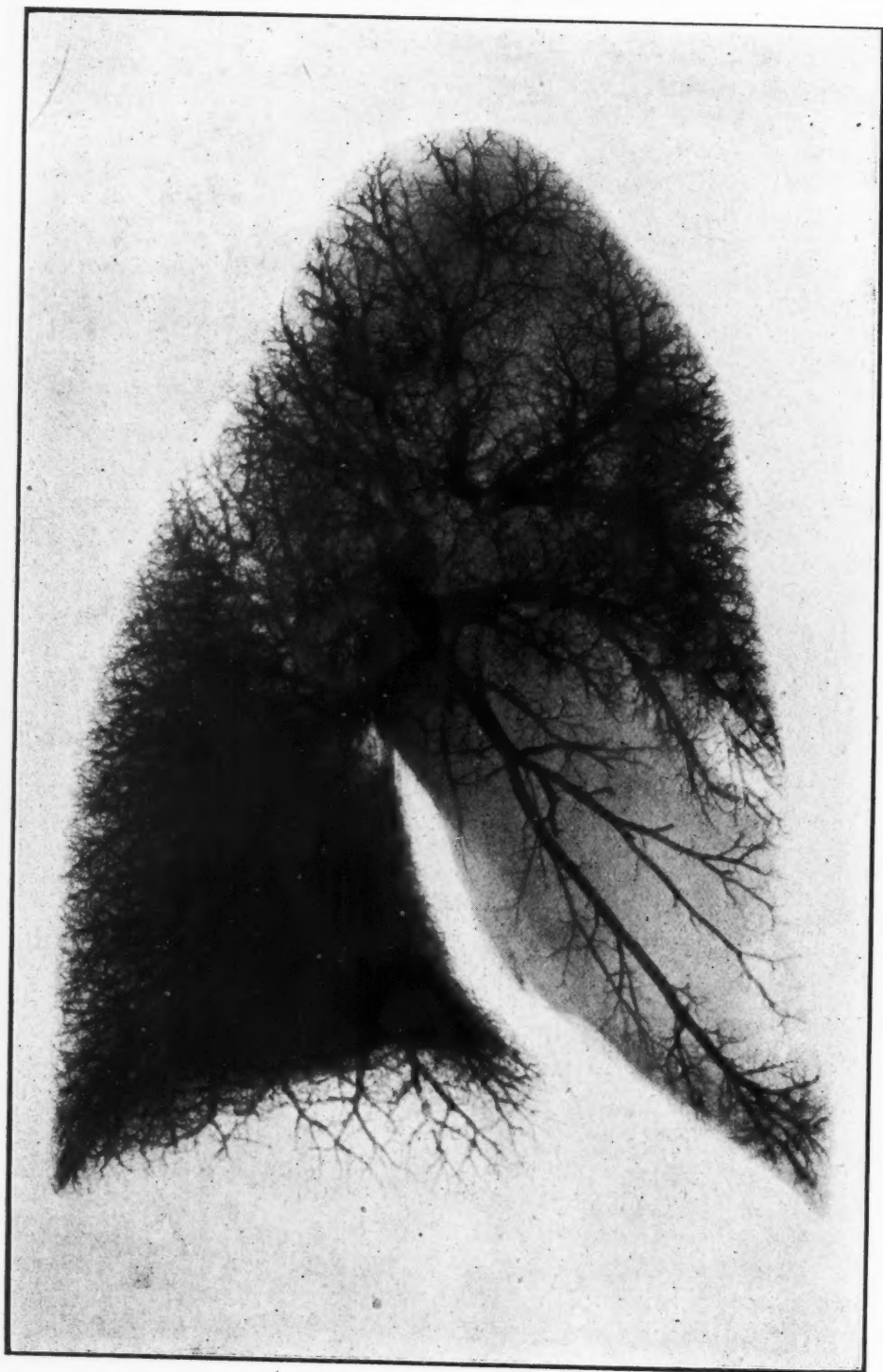


FIG. 2

to each. These short branches, whose lumina are almost as wide as those of the primary branches, suddenly disappear in a basket-shaped network of capillaries which presents a peculiar whorl arrangement.

In contrast to the venous sinusoids, the arterial capillaries present a most intimate anastomosis.

This arterial arrangement is anatomically exquisitely suited for a most intimate and thorough perfusion of the capillaries with fetal blood.

The next slide shows the venous circulation of a placenta which presented at birth numerous infarcts. A careful investigation of the placenta leads us to the conclusion that these infarcts are of congenital origin and probably due to developmental faults in the vasculature of certain districts.

One observes here interspersed among the normally injected cotyledons clear spaces drained by sparse and narrow veins. At their origin these veins show in many places a peculiar lopped-off condition corresponding in microscopic sections to the presence of a hyaline connective tissue which follows the smaller branches and tightly compresses the veins.

Close to the junction of these venous branches with the veins of the umbilical stalk we found peculiar large areas of similar fibrous tissue which nowhere showed evidence of active inflammatory processes.

The next slide, Fig. 1, illustrates the pulmonary arterial circulation. This presents a simple though abundant dichotomy of the main branches, a gradual diminution in bore and a profuse capillary distribution. The circulation is everywhere even, a distinct lobulation can be seen and, excepting for several small anastomoses under the pleura covering the diaphragmatic surface of the lung, the vessels appear to be end arteries.

In sharp contrast to this, the last slide, Fig. 2, shows an injection of a lung whose upper two lobes were the seat of a lobar pneumonia. One observes in the non-inflammatory lower lobe of this lung a tremendous dilatation of the vessels with massive injection; the capillaries seem to be from two to three times their normal calibre and the whole lobe presents a striking appearance of compensatory arterial dilatation.

In the upper lobe a moderate preservation of its circulation is evident, but there exist unusual clear spaces with poor injection and even the injected vessels are somewhat narrowed and compressed.

The middle lobes shows generally lack of injection, only severa

large branches, moderately compressed, appear. These injected branches end very abruptly and the whole lobe presents striking anæmia.

The upper two lobes illustrate the tremendous compression which the lung parenchyma and interalveolar septa suffer through the outpouring of the exudate, and that in marked exudation, as existed in this middle lobe, an almost complete anæmia occurs.

I am very much indebted to Mr. McNeill and Major Morgan for the excellent skiagraphs, also to Mr. Webster, superintendent, Royal Victoria Hospital, for placing these resources at my disposal.

(These slides were demonstrated with the projection apparatus.) Of the slides only two are here reproduced as illustrations.

References—

1. *The Internat. Assoc. of Med. Museums, Bull.*, No. 7, 1918, page 33.
2. *The Journal of Med. Res.*, vol. xxxvi., No. 3, page 327, and vol. xxxviii, No. 3, page 379.

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ACCORDING to figures collected by the American Medical Association, with headquarters in Chicago, there has been a nation-wide drop in the death rate from typhoid fever. The statistics cover every city in the country having a population of over 100,000, and the decrease seems to have affected them all. This effect is greatest in the nine largest cities which contain 15 per cent. of the population of the country. Ten years ago typhoid was the great national filth disease and the only defence against it was from local campaigns for the protection of the water supply. An elaborate and costly filter system was adopted in Philadelphia and less expensive ones in smaller cities. Notable reductions in the typhoid death rate were shown in those localities where the purity of the water supply had been protected. Such reductions were local and exceptional, however, and there was no question as to their cause. The present reduction is nation-wide and remains to be explained, as the full statement of the American Medical Association has not yet been received. In the last ten years inoculation for typhoid has been adopted by the Army and Navy in Canada, the United States and Great Britain with highly beneficent results, but there have been no indications that its use among civilians was general enough to account for this very great reduction in the death rate. It may be that inoculation in some cities has coincided with better water supplies and drainage in others. The main thing is that "the typhoid menace", of which we used to hear so much, is becoming negligible. The lives saved in that way will do something to offset the losses due to war.



## RADICAL CURE OF HERNIA

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THIS paper is not written for the purpose of discussion or critical comparison of the classical operations upon inguinal hernia, or the various modifications which have been advanced for improvement upon them. After a fairly wide experience in hernia cases in civil practice, the writer has been surprised at the comparatively large number of recurrences met with in soldiers who have been operated upon either just before or after enlistment.

A careful study of the anatomical findings in these patients has led to the conclusion that the basic principles involved in the radical cure of an inguinal hernia are not appreciated by every operator. Since herniotomy is regarded as a simple or minor affair, a review of the cases may be of value. Before proceeding to their analysis, it is advisable to consider the anatomical factors involved.

Inguinal hernia is essentially due to congenital weakness of the abdominal wall plus a sudden or gradual increase in intra-abdominal pressure.

The internal abdominal ring is the weakest point in the structure of the inguinal canal. This deficiency is combatted normally by the fibres of the internal oblique muscle which take origin from the external half of the ligamentum inguinale (Poupart's ligament). These fibres are directed almost transversely and cover the internal ring. Should the muscle get an origin more external on the ligament, the lower margin of the muscle will be found above the level of the ring. Again, if the ring is abnormally large, especially in a distal direction, the muscle will not cover it. In other words, an abnormal relationship between the internal oblique muscle and the internal abdominal ring will predispose to hernia.

At the external abdominal ring, the weakness of the wall is compensated for by the fact that the fascia triangularis, the falx inguinalis (conjoined tendon) and transversalis fascia are all attached to the linea pectinea directly posterior to the gap in the

aponeurosis of the external oblique. The efficiency of the wall at this point is verified by the rarity of direct hernia.

The sac containing the hernia is an important consideration. Whether this structure is congenital, encysted, infantile or funicular, it must be properly dealt with. Since it is a direct prolongation of parietal peritoneum, passing through the internal abdominal ring, it must be adequately removed in such a manner that no cone-shaped process of peritoneum is left opposite the internal ring, which in itself would create an inherent tendency toward recurrence. The findings in the recurrent cases indicate that this is not always done. In congenital hernia there is nearly always a constriction of the sac close to the margin of the internal ring; another constriction may be found anywhere between this point and that part of the sac which under normal conditions would have become the tunica vaginalis testis. It has been evident, in at least three instances, that the operator mistook the distal constriction for the proximal, and therefore did not ligate the sac close enough to the internal ring.

The internal abdominal ring is a potential opening in the fascia transversalis, situated one half inch internal to the midpoint of the ligamentum inguinale and normally is just large enough to afford exit for the spermatic cord. The deep epigastric vessels pass medially to the ring, forming the lateral boundary of Hesselbach's triangle; this fact should be borne in mind in plastic work upon the ring. In the presence of hernia, the ring varies greatly in size; in this series it ranged from slight enlargement to an opening admitting four fingers. Obviously, the operator who leaves a large ring will be disappointed in his results.

In complete or scrotal hernia, the external ring is often considerably enlarged. But in incomplete cases (bubonocoele) this ring is not disturbed and therefore is usually normal in size. Any suturing of the crura of this opening is unnecessary in incomplete hernia. In the scrotal variety it should be left patent enough to easily admit the cord.

The radical cure, therefore, depends upon the following:  
(a) Adequate obliteration of the sac followed by a displacement of the stump from the region of the internal ring.

(b) A correct relationship must be established between the internal abdominal ring and that part of the internal oblique muscle which takes origin from the ligamentum inguinale.

(c) The internal ring must be left just large enough to allow the exit of the spermatic cord.

(d) A proper closure of the external abdominal ring, if necessary.

To accomplish these fundamental facts, the technic of a method used by the writer is submitted.

An incision, involving skin, Campers' and Scarpa's fascia, is made parallel to the internal half of the ligamentum inguinale and one inch above it. The superficial epigastric and external pudendal vessels are severed and ligatured.

The aponeurosis of the external oblique muscle is incised in the direction of its fibres, care being taken not to cut either crus of the external abdominal ring. The margins of this fascia are retracted upward and downward, exposing respectively the internal oblique muscle and the ligamentum inguinale. This step exposes the inguinal canal and its contents.

The spermatic cord is not lifted from its bed. The cremasteric fascia and infundibuliform fascia are opened the full length of the canal. This uncovers the component elements of the cord and the sac, imbedded in a variable amount of extraperitoneal fascia.

The sac is opened. Its contents are returned to the abdomen; it is then sponged away from the spermatic cord up to the level of the internal ring. At this point the ductus deferens will be found in close apposition to the sac. The latter is then transfixated and ligated with No. 0 catgut and the redundant portion excised. If the internal ring will admit more than one finger, the sac is treated as if it were an ordinary incision in parietal peritoneum and is closed by continuous suture. In the writer's experience this is usually the condition found. A full curved needle is then threaded with the free ends of this suture and is passed through the internal ring upward as far as possible between the parietal peritoneum and the transversalis fascia (in the extraperitoneal fascia). It is then passed forward through the transversalis fascia, transversalis and internal oblique muscles. Traction on this suture displaces the stump of the sac above the level of the ring. The ends of the suture are tied against the internal oblique muscle.

When the internal ring is enlarged, and it usually is, the lateral margins of the opening are drawn together snugly about the cord by No. 1 catgut. These stitches should always be placed laterally to the cord because the deep epigastric vessels lie internal to the ring.

The coverings of the cord are closed by one or two No. 0 catgut sutures.

The lower margin of the internal oblique muscle is then brought

into apposition with the abdominal surface of the ligamentum inguinale. This is accomplished by three or four mattress sutures of No. 2 chromic gut. The first stitch is placed at the medial end of the canal and brings the junction point of the muscle fibres and conjoined tendon into apposition with the medial extremity of the ligamentum inguinale. There should be just sufficient room medial to this suture for the cord to exit from the canal. When this stitch is tied, the lower margin of the muscle falls into natural apposition with the ligament and is held in place by the series of mattress sutures.

The incision in the aponeurosis of the external oblique is then closed with No. 1 chromic catgut. If it is redundant, the edges may be overlapped.

The skin and superficial fascia are closed with a sub-fascial and subcutaneous silkworm gut suture. A dry gauze dressing is placed against the wound and the ends of the two silkworm stitches are tied over it.

The question of convalescent treatment after herniotomy is very important. A careful inquiry in the recurrent cases reveals the fact that the average period in hospital was three weeks; this was followed by ten days' furlough and one week light duty. The exigencies of the service, at the time these men were operated upon, demanded the early return of these soldiers to active duty.

Since complete cicatrization does not occur for probably a period of ninety days, the recurrences in these cases may be partially attributed to their hurried return to physical exertion. Therefore, a recommendation for more extensive convalescence following herniotomy may seem not unwarranted.

There were twelve recurrent herniæ operated upon by the writer in the Western Ontario Military Hospital during the last six months. The Bassini operation had been apparently chosen in all cases. In four instances, the union between the internal oblique muscle and the ligamentum inguinale was still intact, but the hernia protruded through the hiatus left for the spermatic cord. The internal abdominal ring, in five cases, was large enough to admit from three to four fingers; the three remaining cases proved to be congenital hernia.

From a study of these cases the following facts may be deduced:

- (a) Consideration of all factors involved in the anatomical ætiology of hernia is necessary.
- (b) Adequate treatment of the sac is imperative.



- (c) The internal abdominal ring must be constricted to a capacity just sufficient for passage of the cord.
  - (d) Any displacement of the cord from its normal position is not only unnecessary, but may predispose toward recurrence.
  - (e) Convalescence should be reasonably protracted.
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IN his annual report on the work of the Royal Edinburgh Mental Hospital, the physician-superintendent, Dr. George M. Robertson, dealing with the mental effects of the war, says that the public anxieties connected with the varying fortunes of the war have not caused much insanity. The mental breakdowns, due to these causes, have been more than counterbalanced by a diminution of insanity in other directions. The war was an event of such absorbing interest that it distracted many from their retrospective habits and personal worries, thus acting as a protection to them. To quote from the report:

"Short of producing actual mental disorder, the extraordinary economic conditions experienced during the war have had a very unsettling effect on many. A psychological factor which operates in fomenting the unrest which exists has not yet been referred to. It is a remarkable fact how many young men who were exempted from military service, and earned high wages in comfort and safety at home, are taking a leading and active part in economic disturbances. They believe that they are actuated by altruistic motives and are fighting solely for the welfare and rights of the class to which they belong; but how much of their action is really due to uneasiness and unrest in their own minds? Just as it sometimes happens that a great swindler throws himself into church work to stifle the reproach of his conscience, so these men, who shirked fighting for their country in France and Flanders, ease their minds of this painful knowledge, and protect their injured feelings of self-respect by the thought that they are nobly doing their bit by now fighting for their fellow workers. This is a mental process for defence purposes known as inversion. They have not been loyal members of society, and they now deceive themselves that they are among the most faithful. How different the state of contentment and peace of mind of the severely wounded. They know that they have done their duty by their country and feel that everyone else thinks so too. The herd instincts are distressing the one class while comforting the other."

## Case Reports

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### LIVING CASE: STRICTURE OF THE ŒSOPHAGUS IN A CHILD

By E. M. EBERTS, M.D.

*Surgeon, Montreal General Hospital*

**M**Y reason for bringing this case before you is that it represents a condition from which recovery is very unusual. During the last twelve or fifteen years we have had a number of cases of stricture of the œsophagus in young children, following the swallowing of lye, and the results of treatment in cases in which the stricture has gone on to complete stenosis, as in the present case, have been practically nil.

This child, aged four, was sent to hospital by Dr. J. J. Ross on July 31st, 1918, admitted to the service of Dr. G. G. Campbell, and transferred to my service early in August. Following the x-ray demonstration of the presence of stricture, an attempt was made, under a general anæsthetic, to pass bougies, but nothing could be passed beyond a point slightly below the level of the upper border of the manubrium sterni. We then tried to induce the child to swallow a silk thread, and had a special bougie prepared with the end perforated for the passage of the thread. This method was also unsuccessful. The bougie passed just behind the upper border of the sternum and there met with resistance. I then decided to expose the stricture, if possible by opening the œsophagus low down in the neck. By this means, with the mucous membrane on the stretch, a urethral whip was passed and the stricture dilated sufficiently to insert a No. 4 soft rubber catheter. This catheter was left *in situ* for forty-eight hours, at the end of which time a No. 8 was quite easily inserted. Within a fortnight we were able to pass a catheter the size of an ordinary enema tube, and finally an ordinary stomach tube. On November 1st, under anæsthesia, the tube was removed from the neck and passed with-

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Presented at the meeting of the Montreal Medico-Chirurgical Society, February, 7th, 1919.

out difficulty into the stomach by way of the mouth. On November 10th the neck wound had entirely healed. The child was fed through this large tube for a few days longer. Then the tube was removed during the day and passed only at night. Subsequently it was left in position every other night until at the present time it is necessary to insert it only every third day. The child is now on full diet, and, while there is no evidence of stricture, the passage of the tube is maintained, because, as you know, these strictures, except under prolonged treatment, are likely to return.

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### CONGENITAL MALFORMATION IN SCROTUM; TWO TESTES AND UTERUS IN RIGHT PORTION OF SCROTUM

BY D. W. MACKENZIE, M.D.

**P.** J., male, aged thirty-eight, single. Admitted May 27th, 1918.  
Occupation, factory hand.

Complains of rupture, pain, and mass in right groin.

*Onset.* Thinks he had a mass as long as he can remember, more pronounced for past twenty-five years; last four days has increased in size and become painful.

*Diagnosis.* Congenital mal-descent of testes with uterus in right portion of the scrotum.

*History.* Since the age of five or six years has had swelling in the right groin: this followed, he thinks, a kick. It has appeared and disappeared at intervals for the past two years. Last winter, he thinks, it was much smaller for several months without the use of a truss, which he has worn most of the time as long as he can remember.

Last week he had a vomiting attack accompanied by headache. A few days later (four days ago), the swelling in the groin increased, and extended to the scrotum. There was considerable pain; this has persisted. Has had no vomiting for four days.

*Past history.* Scarlet fever in childhood. Has several times

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From the Department of Urology, Royal Victoria Hospital, Montreal.

had headache and vomiting lasting one or two days. Does not smoke or drink. Two years ago had a gonorrhœal urethritis; has never been completely cured; has a morning drop at present. No history of lues.

*Physical examination.* A well developed, well nourished man, in no apparent pain or distress. Skin and mucous membranes are of good colour; there are a few small reddish areas on skin on arms and legs. *Lymphatic system.* Left axilla has a palpable gland; otherwise normal. *Respiratory system.* Chest well-formed; expansion good and equal; vocal fremitus normal; percussion, normal lung resonance throughout; auscultation, normal chest. *Cardio-vascular system.* Pulse rate 70, regular good volume and tension—vessel wall just palpable; heart, normal beat, no murmurs. *Gastro-intestinal system.* Teeth, upper are false, lower poorly kept; tongue, clean; abdomen moves freely on respiration; equal and symmetrical. *Nervous system.* Deep and superficial reflexes present; no pathological reflexes; pupils equal in action. *Genito-urinary system.* Scrotum: Right side is greatly enlarged; no tenderness. A mass simulating the testis can be palpated posteriorly. There appear to be two round masses, with an irregular mass in the centre, which extends well up into the inguinal canal, where there is a marked impulse on coughing. This scrotal mass does not transmit light. Left scrotum small; no testis present.

*Rectal examination.* Prostate normal in size, contour and consistency; right seminal vesicle considerably enlarged and soft, and extends up as far as the finger can reach; left seminal vesicle small and firm. Urine: clear, dark, amber; acid, 1019; no albumin or sugar. Microscopic: no pus; many urates.

*Operation.* May 30th, 1918. For congenital dual testes in right scrotum with congenital hernia. By Dr. MacKenzie. Ether by Dr. Grant. Right inguinal incision; inguinal canal opened; cord large, hard and continuous to scrotum; hernial sac identified, freed, ligated at neck and resected. Mass consisted of two moderately sized testes in right scrotum with large mass between, which extends up the canal and down the course of the Vas—seems to be continuous with right seminal vesicle. One testis was freed, placed in warm gauze with pampiniform plexus and Vas intact. The other testis with oblong mass attached was freed to attachment to seminal vesicle, ligated and here severed with cautery and removed en mass. The first testis was replaced in scrotum and wound closed by Bassini method. Convalescence uneventful.



## PATHOLOGICAL REPORT

*Mass from right side of scrotum.* Specimen received was removed from the right scrotal sac, and consists of a well-formed testicle of normal size and apparently intact tubules. Quite closely attached to it, is an elongated slightly pear-shaped organ measuring 9.5 x 4 cms., which is hollow, and on being opened presents a well-formed mucus membrane, supported by a thick muscular wall. This organ-like structure (uterus) was lying above the testicle in the lower part of inguinal canal, the larger end being dependent. And to the left lower aspect a well-formed Fallopian tube 6 cms. in length is attached. This tube shows a rudimentary fimbriated extremity and a small cystic pedunculated structure, which apparently corresponds to a cyst of Morgagni. A well-marked epididymis can be palpated on the posterior surface of the testicle and from this a tortuous tube (Vas) runs up on the posterior surface of uterus and towards its upper extremity becomes embedded in its posterior wall, but cross section shows a well-marked lumen. Surrounding this cord, and embedded in the connective tissue are a number of smaller cord-like structures, some of which have a very definite lumen; others appear obliterated. Running along the left margin of uterus is another quite thick cord-like structure, which takes origin near the isthmus of the Fallopian tube and becomes embedded towards the upper end in the wall of the uterus. The upper end on section shows only a minute central lumen, while toward its other end is apparently convoluted and on cross section shows three lumina from which can be pressed a whitish fluid.

*Microscopic examination.* Sections from the uterus show a mucous membrane which is lined by a surface columnar epithelium and consists of a very cellular stroma, cells of which resemble very closely that of a normal uterine mucosa. Embedded in this are a number of tubular glands, which although rather irregularly arranged and tortuous, are lined by a single layer of high, columnar epithelium. The mucosa is supported by a rather vascular, but quite typical muscularis. *Diagnosis: Uterus.*

Sections from the Fallopian tube show a well formed and definite structure consisting of a lumen in which lie folds and projections of mucosa, which are lined by a simple columnar epithelium. This is supported by a muscular layer and covered by a serosa, which shows marked oedema. Quite closely attached to the tube and included in the same section are numerous cross sections of

tubules, which resemble very closely those of an epididymis. Diagnosis: *Fallopian tube and tissue from epididymis*.

Section from the testicle consisted of testicular tubules, which are evidently actively functioning, as many spermatozoa can be demonstrated. Diagnosis: *Testicle*.

Sections from the cord-like structure in the posterior aspect of the uterus show a very thick walled muscular tube with a small lumen in which lie a number of papillary projections lined by stratified columnar epithelium. Diagnosis: *Vas Deferens*.

Another section taken from somewhat similar structure lying along the lower wall of uterus show a similar but much smaller vas deferens.

Sections from the rather soft, elongated mass lying near the Fallopian tube, and which was thought possibly to be ovarian tissue, is made up of cross sections of tubules resembling those of epididymis. Diagnosis: *Tissue from epididymis*.

The case belongs to the group of pseudohermaphrodites, and is to be interpreted as result of persistence and development of the Mullerian ducts by which uterus, tubes and vagina are formed in more or less complete fashion, and, of course, remain intimately connected with the male genito-urinary tract, occupying the position of the normal prostatic sinus.

A more detailed account of the embryological explanation of this malformation will be given later with the publication of the case.

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THE senate of Toronto University has authorized a new degree for students wishing to specialize in any of the multitudinous branches of medical research. B.Sc. (Med.)—Bachelor of Science in Medicine—will be awarded to any student who on the completion of the first three years of the new six year course, with honour standing, spends one year in research work on pre-medical scientific work. On the conclusion of the full six year course, a student may then obtain the degree by putting in a year of research work along the lines of any of the medical branches, such as clinical medicine, surgery, or obstetrics. A high standard will be maintained, and to obtain the degree will require a thorough knowledge of the work.

## Editorial

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### THE CANADIAN PUBLIC HEALTH ASSOCIATION

**D**URING the last week of May, one of the most important of the eight annual meetings of this Association was held in Toronto. Much of its attraction was due to the imposing programme of speakers and subjects which had been arranged for the session. The outstanding fact is that the new Federal Department of Health seems to have been galvanized into action by the meeting, and to have made use of the occasion to invite some of the authorities to Ottawa to advise on the subject of federal assistance in fighting the venereal problem in Canada.

When the Federal Department of Health was launched in Ottawa during the present session, there were many misgivings that the scheme had not been given the attention it deserved and that the subject was being treated in a half-hearted way. The programme, as outlined by the Minister, certainly indicated that the plan had not been worked out along the broad outlines necessary if it were not to be just the appendage of some larger department.

The scheme of getting the authorities on the venereal disease problem together, if followed by immediate action on the part of the Government, has everything to commend it. At any rate the publicity given the figures, showing the prevalence of syphilis in Canada, should prove a surprise to most citizens and even to some physicians. It was stated that at present there are in Canada half a million people suffering from syphilis. It is discouraging, though, to see how few of the newspapers will even mention the name of this disease. The desire to have Canada continue her ostrich-like policy in educating the people in venereal matters, seems still prevalent.

The recent influenza epidemic was discussed at length at the meetings. The members were not agreed as to the value of the regulations imposed in certain parts of the country. New York City was mentioned as having fewer cases per capita than many other localities, where all public gatherings were forbidden. On the question of vaccines nothing new was brought forward and the disappointing results they gave were reflected on by several speakers.

The question of requiring medical certificates before marriage was gone into again. The value of the discussion was due entirely to the publicity given the matter by the press. The same may be said of mental hygiene. It is only by constantly bringing these questions into the open that we can expect to get our legislative authorities to act. Unfortunately our governments seldom lead in health matters; they act, and with hesitation, only when forced by public opinion.

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#### POST-GRADUATE WORK IN GREAT BRITAIN

**A**LL Canadians must be interested in the really serious attempt being made by the profession in England to establish this work on a basis that will make it attractive to students the world over. This move was first made by Sir William Osler while the war was still in progress, and when it was realized that the German and Austrian schools would no longer be able to attract the students from the allied countries. To his foresight and magnetism must be attributed the early organization work that has been going on quietly during the last two years, and which has culminated in the recent visit of Sir St. Clair Thompson to Canada and America.

So many Canadian and American medical men have had the privilege of seeing London more or less intimately during the war that the chance of going back there for a post-graduate course will always be a pleasing anticipation. That the



clinical material there is varied and abundant is unquestionable. London, owing to its vast size and because it is the greatest shipping point in the world, is undoubtedly able to supply examples of diseases contracted in all parts of the world.

Berlin and Vienna by their perfect organization were able to control post-graduate work. The English hospitals made few attempts to wrest this position from them. Visiting doctors were received politely in London, but there was no desire to make things attractive for them so as to induce them to get the instruction needed for doing special work.

The Reception Committee, presided over by Sir St. Clair Thompson, has arranged to meet students on their arrival in London, and on finding out their wants will put them in touch with teachers who will be anxious to give them exactly what they desire. In other words, they will supply your wants, whatever they may be, at a price that will make it attractive for you. Libraries, museums and hospitals are being linked into the scheme so as to make it convenient for the students.

It will be a distinct advantage to students to dispense with a foreign language and to be able to complete their work in such a city as London. The scheme, if worked out on the lines suggested, should be a success at any rate as far as the students from the Empire are concerned.

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DR. ADDISON, who is at the head of the new British Ministry of Health, believes it possible to frame a comprehensive scheme big enough for a big ideal. He means "to improve the national armour against disease" by the projected consolidation of efforts under the financial assistance of the state. Addison has pointed out that the business of the health ministry does not begin and end with hospital matters. In addition to regular clinics in the larger centres

of population, it is proposed to organize portable clinics and laboratories. There is to be a great development of maternity and nursing services in Britain. There is to be an organization of facilities for diagnosis. The keynote of the ministry's campaign is to be prevention. All branches of sanitation and preventive medicine will be initiated. In a broad sense the organization will be that of a medical intelligence department quite as much as that of an administration bureau. Summarized, the people are to be told plainly and as often as possible what is to be expected from them to maintain the public health, and there is to be a continual campaign of publicity showing why such education is necessary. An Advisory Council will be formed of men, experienced and capable, who will give advice and criticism in local government, medical, insurance, scientific and health matters generally. Machinery has to be devised whereby the great professions outside, and, above all, public opinion can make their influence felt in the modelling of policy.

Dr. Addison desires to impress the fact that the function of the new movement is to supplement, not to supplant, the work of the practitioner, whose position will be in no way interfered with. To endeavour to keep as many people as possible as well as possible, and to insure that no sick person shall lack adequate care and attendance, may necessitate new posts and create a demand for many physicians; but any work in the direction of diagnosis and therapy must be conducted under such auspices as will carry professional opinion. The hospitals and other institutions that have heretofore been maintained by voluntary contributions need neither be abolished or turned into state establishments. They should be assisted in return for services that they may be invited to render.

With regard to established governmental research bureaux in medicine, some concern has been expressed if the new scheme is put in to operation. There is no question that a ministry of health should have a department for scientific

investigation, which is the very backbone of progress. But there is a medical research committee already in existence as a permanent institution created under the English national insurance act. To some it has seemed advisable that this should continue in an independent existence, because medical research in the broader sense must have a wider sphere than that of national or insular concern. As has been remarked, medical research must deal not with England and Wales, but with the empire. There is much to be said in favour of some individuality and independence of effort in research, even at the expense of some duplication.

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GENERAL CROWDER, of the American army, has expressed the opinion that information gained from the medical statistics of the draft will be the means of saving a hundred times as many lives as were lost in the war. Some of the statistics available already from the records are very interesting. One thing clearly established is that foreign-born registrants were of lower standing physically than the native born. The percentage of mentally deficient was extremely high in the Southern States—probably because of the negro population—while mental diseases and nervous disorders were more prevalent in the North. The percentage of men suffering from easily remediable defects was 2.76, and the percentage of those physically unfit for any kind of service was 16.25. Among the defects of the latter class were included defective hearing and vision, internal diseases, mental disease or deficiency, disabling deformities, muscular paralysis, and, most important of all, physical under-development.

The causes of physical under-development can in most cases be removed by social hygiene campaigns, competent medical supervision in schools and factories, proper exercise and physical training and by a public maintenance of hygienic standards as high as those already observed in civilized homes. Hence this latter class comes especially within the scope of a Federal Health authority.

A GREAT international congress of medical experts to organize a world drive on disease and ill-health is to assemble at Paris. The convention is an inevitable outcome of the war. Under-nourishment has sapped the vitality of entire peoples and races as well as the epidemics springing directly from the struggle. Unless, quickly, and widely, the means of resisting disease can be restored, humanity faces the combat of a succession of plagues. In the past the western world has escaped devastating scourges because of its distance from the East; but now all the nations, big and little, are in direct contact, and the reconstruction which will result from a league of nations will produce a closer intimacy. For the safety, health and happiness of the world at large, it will be imperative for the dominant nations to educate the backward brothers out of their uncleanness and indifference to disease and death. Wide spread hygiene and sanitation throughout China, Russia, Persia, Turkey, Asia Minor and some sections of the Balkans and Central Europe will promote world health by wiping out breeding spots of malignant epidemics. A conference to devise a procedure by which all the nations can unite against contagion is a vital supplementary to the Versailles gathering.

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THE first professorship in Clinical Medicine at the University of Toronto, due to the munificence of Sir John Eaton, has been offered to Dr. Duncan Graham, now senior officer on the medical staff of the University Hospital, No. 4, at Basingstoke, England. This gift of Sir John, which is understood to amount to \$25,000 a year for a period of twenty years, stands almost alone in the history of the University. In this respect it affords a remarkable contrast to the generosity shown towards other institutions of a similar nature by those who understood and appreciated their advantages. To take one example in Canada, McGill University has been made one of the foremost seats of learning in the world by the



liberality of the citizens of Montreal. Starting with the estate left by its founder, the history of the University recalls at once the names of Strathcona, Macdonald, Workman, Molson, Redpath, Morrice, Greenshields, and many other benefactors who took pride in the development of its different faculties and an active interest in the management of the institution. The University of Toronto is a state institution, and this fact seems heretofore to have diverted the generosity of its citizens into other channels, but no better object could attract that generosity than that of supplementing the assistance given by the Province to the University.

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#### ERRATA

In Dr. G. F. Laughlen's article on "So-Called Trench Mouth and other Manifestations of Vincent's Disease as a spreading Infection in Canada", in the April issue, page 350, appears the following sentence: "A positive Wassermann test, though it bears a relationship to Vincent's disease is often present . . ." This, we are informed by the author, should have read: "A positive Wassermann test, though it bears *no* relationship to Vincent's disease is often present. . . ."

## Obituary

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### DR. W. A. ROSS

DR. W. A. ROSS died at his home in Barrie, Ontario, after an illness of several months, in his fifty-eighth year. He had practised his profession there since 1885, and had a very wide reputation as a successful surgeon. He was prominently identified with the Royal Victoria Hospital, having been a very active member of the hospital board from its inception in 1888. He was coroner of the County of Simcoe for a quarter of a century, and official surgeon of this division of the Grand Trunk Railway. Thirty-four years a member of St. Andrew's Presbyterian Church, he served on the board of managers for more than twenty years. Dr. Ross was a clever physician and a man of fine character, and was very highly esteemed throughout the entire district. His wife and three sons survive.

### DR. ARTHUR D. SINCLAIR

DR. ARTHUR D. SINCLAIR, prominent among the younger physicians and surgeons of Toronto, died from double pneumonia on May 25th. His vitality, weakened by incessant labour for the sick in the recent influenza epidemic, was insufficient to cope with the disease which affected him, and he fell a victim after an illness of nearly two weeks.

Dr. Sinclair was the eldest son of the late Dr. John Sinclair, of St. Mary's, Ontario, and was born thirty-six years ago. He held degrees from three American universities, as well as a B.A. from the University of Minnesota. He came to Toronto in 1911, and was for a time associated with Dr. R. D. Henderson, but for the last five years practised independently. Many were overcome on hearing of his untimely death. It was believed by all who knew him that he was on the threshold of a great career in surgery.

### MAJOR A. MACCOLL, M.D.

MAJOR A. MACCOLL, M.D., one of Belleville's best known physicians, died on May 6th, after an illness of some duration. He was fifty-two years of age and was born in Seymour Township.

He graduated from Queen's University in arts and medicine with high standing. He began the practice of his profession in Belleville as a colleague of Dr. Gibson twenty-five years ago. He was surgeon and honorary major of the 15th Regiment, and at the outbreak of the war offered his services to his country and was attached to the Canadian Army Medical Corps, with the rank of major. He was a Liberal in politics, and an Anglican in religion. He is survived by his widow.

#### DR. LUKE TESKEY

DR. LUKE TESKEY, a well-known surgeon and former professor of Trinity College, died on May 1st after several months' illness. He succumbed to acute gastritis, undergoing an operation from which he failed to rally. He had been a prominent medical practitioner in Toronto for forty years. He was in his 71st year. He graduated from Trinity College, Toronto, receiving the degree M.D., C.M., and then went to London, England, where he received his M.R.C.S. From thence he went to Paris, where he took a post-graduate course. After an extended visit to Italy he returned to Toronto, where he established himself permanently. Dr. Teskey had a great deal of experience as a teacher and professor. Previous to graduating in medicine he had taken a course in dentistry. In later years he opened and owned the first dental college in Toronto, the Royal College of Dental Surgeons. For a number of years he was professor of pathology, anatomy and histology at Trinity Medical School. At the same time he had an extensive practice and contributed largely to medical literature and research. Latterly he gave his entire time to surgery, until his retirement five years ago.

THE sudden death of Dr. Sylvanus Keith, of New Glasgow, Nova Scotia, has caused widespread regret. He was a great favourite in the locality, and had practised there for many years. He was a skilled physician and did a great deal of work among the poor for which his only recompense often was the gratitude of the recipients. When the call of the sick and suffering came he was always ready and quick to respond. Dr. Keith was born at Stellarton, his death at the comparatively early age of fifty-nine may be attributed in large measure to over-devotion to duty.

DR. ROBERT CAMPBELL MACGREGOR died suddenly at the King's Daughters' Hospital, Duncan, on April 2nd. He was born

in Scotland in 1868. He graduated from the Universities of Glasgow and Winnipeg with the degrees of M.A. and M.D. In 1913 he took up his residence in Duncan. Although of a retiring disposition, he had many friends who held him in high esteem.

DR. JAMES McCLAY YOUNG, graduate of Western University Medical School, in 1917, and later a house surgeon on the staff of the Victoria Hospital, died on May 9th, of influenza. He was thirty-four years of age.

ELI THOMAS EDE, M.D., died in Galt on May 30th. He was born in Essex County, Ontario, graduated in medicine from Toronto University, and then continued his studies at Edinburgh and London, where he obtained the degrees of L.R.C.P. and F.R.C.S. Subsequently he qualified for service in the British Royal Navy. In 1886 he retired from the Navy and returned to Canada, taking up private practice in various parts of the country. He took a very active part in war work, especially in recruiting, his energies being directed chiefly to assisting the Navy League organization. He was a prominent public speaker and his addresses during the past winter will always be remembered as fine examples of the art of oratory. He leaves a widow but no family.

DR. EDWARD BOTSFORD CHANDLER died on May 13th, of heart failure with complications. New Brunswick loses in him one of her leading physicians, and Moncton one of her best and most respected citizens. Dr. Chandler graduated from the New York College of Physicians and Surgeons fifty years ago, and since that distant period has continuously enjoyed an extensive practice in his native province. He was recognized throughout the Maritime Provinces as a diagnostician of great merit, and his services were much sought in a consulting capacity. He loved his profession, and was a true and candid friend. He was in turn greatly beloved by his patients and leaves a void it will be difficult to fill.



## Miscellany

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### News

#### MARITIME PROVINCES

THE Provincial Government of Nova Scotia have appointed as assistant physician in charge of the women's wards of the Nova Scotia Hospital, Dr. Eliza Kilpatrick. Dr. Kilpatrick has had several years experience as assistant physician at the Northampton State Hospital, Mass.

W. H. HATTIE, Provincial Health Officer, issued a notice in Halifax early in May to chairmen of the local boards of health calling their attention very specially to the small pox situation in the province. He pointed out that the mildness of the majority of the cases made its control more difficult, and also its discovery, hence the need for the authorities to be on the alert and meet out prompt and vigorous action in dealing with any case which may appear. Dr. Hattie took a strong stand on the enforcement of vaccination and on the rules for quarantine required by the Public Health Act.

ON May 29th was held the Convocation for the conferring of degrees in the Faculties of Medicine and of Dentistry at Dalhousie University. Nine men and one woman received the degrees of M.D., C.M., and four men and one woman the degree of D.D.S. The graduation ceremony was carried out by President MacKenzie, D.C.L., and Lieutenant-Colonel A. J. MacKenzie, Officer Commanding the military hospitals in Halifax, addressed the graduates, Following him the Rev. Captain H. A. Kent, D.D., Professor of Hebrew at Pine Hill Presbyterian College, Halifax, gave a vivid account from personal knowledge gained overseas of the splendid work done by the entire personnel of the C.A.M.C. The criticisms recently made were directed, said Professor Kent, solely at the methods of organization of that branch of the service and not at all at its professional efficiency.

Undergraduate prizes were awarded for Practical Anatomy

(First Year), by Professor Cameron, to H. S. Dolan, and for Practical Histology (First Year), by Professor Fraser Harris, to P. St. Clair Irwin.

The graduate prizes were two University medals awarded in the Faculty of Medicine to Charles Grant Bain; in the Faculty of Dentistry to Michael Clarence Connors.

THE New Brunswick department of health recently issued the first Annual report of the chief medical officer, Dr. G. G. Melvin, for the year ending October, 1918. As the new public health act was made effective in October last, the report deals almost entirely with matters as they existed under the former health act. Included in the report are those of the local health boards, that of Dr. Hanington, medical school inspector for St. John, and the first annual report of the provincial laboratory by Dr. H. L. Abramson, which dates from July, 1918, when the newly created laboratory began its service. Dr. Abramson acts as adviser to the physicians of the province in the matter of administering sera and vaccines. The Wassermann test for syphilis will be added to the equipment. Influenza vaccine sufficient for 20,000 was distributed through the medium of the laboratory. The total cost of the laboratory was in the vicinity of \$4,000, and the budget estimate for maintenance for the coming year is fixed at \$1,000, which grant Dr. Abramson does not consider sufficient to do justice to the work proposed to be carried out.

DR. MELVIN culled the following figures from the local health district reports regarding small pox: The total number of cases reported for the province were 3,794, a total that does not reflect creditably upon the system of public health administration at that time, especially in view of the fact that many cases probably were not reported. Dr. Melvin pointed out that the regulations in regard to vaccination found in the new health act will, in a few years, make such epidemic of small-pox impossible. The number of cases recorded in local reports is as follows: Madawaska, two hundred; Victoria, two hundred; Restigouche, two hundred and twenty; St. Stephen, one; Gloucester, one thousand nine hundred; St. George, twenty-five; Westmoreland, twenty; Sunbury, one; Grand Manan, six; Northumberland, two hundred and fifty-one; Kent, four hundred and thirty-five; Quense, thirty; Carleton, forty; Edmunston, seven; Fredericton, one; Moncton, thirty-seven; St. John, forty.

THE Federal Government has agreed to grant \$62,500 to the St. John General Public Hospital. The notification comes through Dr. G. A. Baddy, one of the hospital commissioners. This sum goes towards the expense of caring for sick mariners and will provide for twenty-five beds on a basis of \$2,500 each.

### QUEBEC

THE title of Member of the Consulting Board of the Connaught Antitoxen Laboratory has been bestowed on Dr. Arthue Vallée, the well-known physician, bacteriologist, and professor at Laval, Quebec city. He has been appointed to this post by the Board of Directors of the University of Toronto, to replace the late Dr. E. P. Lachapelle, of Montreal.

THE seventh annual report of the District of Bedford General Hospital, Sweetsburg, was read at the annual meeting, when the treasurer announced that the small standing debt on the hospital had, through recent gifts of money, been met, and the institution was now clear of debt. The total expenses for the year was \$3,274.88, leaving a balance of \$310.30. In the training school, one hundred and eight applications have been received.

A DELEGATION of nearly one hundred representatives of charitable and benefit societies waited upon E. R. Decary, chairman of the Administrative Commission, to urge the establishment in the city of Montreal of a hospital for curable cases of pulmonary tuberculosis. Dr. J. E. Dubé, of the Bruchesi Institute, acted as spokesman and insisted on its necessity, outlining various plans which had been presented as solutions of the problem. Mr. Decary, in reply, said that the commission realized the need of such an institution in Montreal, that the Mont Lasalle building was under consideration for the purpose and that a plan was being prepared by the city medical health officer. He suggested the delegation go before the provincial authorities to ensure the support of the provincial government and to obtain the promise of financial assistance. Among prominent members of the delegation were Senator Beique, Professor Falk, of McGill University; Canon Arbour and Canon Cousineau represented Archbishop Bruchesi, and Rev. H. A. Benoit represented Bishop Farthing.

THE Baby Welfare Conference and Exhibit was opened on May 12th in Montreal and continued all the week with three evening sessions. Among the many features of the exhibit exciting attention was the Charity Organization Society's material protest against unsanitary housing conditions and the booth operated by the Montreal Maternity Hospital, which showed the prevalence of unnecessary blindness, and advocated measures for the care of the baby's eyes.

THE final and primary examinations of the Pharmaceutical Association ended recently. Eight men passed as Licentiate of Pharmacy and eleven as assistant-pharmacist. The examiners were Messrs. O. St. Armour, Ste. Agathe des Monts; A. R. Farley, Hull; O. H. Tansey, Montreal; A. F. Francoeur, Quebec; M. Letourneau; L. S. Desautels, J. E. Barnabe, President, and H. J. Pilon, Secretary, Montreal.

A CANADIAN National Council for combatting venereal diseases has been formed at Ottawa. It has been addressed by Sir Robert Borden, who promised the co-operation of the government in the carrying out of a campaign against these diseases. Mr. Justice Riddell, of Toronto, has been appointed chairman. It is proposed to ask the government to get behind the Dominion Council for the suppression of social vices, to afford every facility for the treatment of venereal disease, and for the establishment of clinics where cheap or free salvarsan will be available.

PROBABLY the first health census that has ever been attempted in any city in Canada was inaugurated recently at Ottawa. The census was to be taken in co-operation with the Board of Health. The organization was very carefully prepared under experienced heads and the census will be very thorough and systematic. The city was sub-divided into forty districts of, as nearly as possible, equal population. The taking of the census necessitated a house to house canvas, in which it was estimated about seventy-five societies participated. Representatives of various societies were allotted different districts. The census will secure to the Board of Health and the Ottawa Health Society the possession of an important fund of information to be turned to great use in improving the health conditions of the city, and in combatting an epidemic should another one occur.



THE Hon. Dr. Beland, member for Beauce, moved a resolution in the House to prohibit the manufacture, importation or sale of all patent medicines containing opium and its derivatives intended for internal use. He launched a drastic attack on "the so-called soothing syrups". A number of medical men amongst the legislators took equally strong ground and directed a withering fire against a wholly inadequate clause in the Patent Medicines Act.

THE annual report of the Ottawa City Disinfector, R. J. Smith, showed an increase in cases of scarlet fever and a decrease in diphtheria. The disinfections for scarlet fever totalled five hundred and forty-one compared with two hundred and forty-seven last year, the number of diphtheria disinfections was fifty-two compared with four hundred and forty-one in 1917. Special attention was paid this year to disinfecting houses where there had been cases of tuberculosis, one hundred and forty-two being disinfected, as compared with one hundred and sixteen in 1917. There were eighty-six school disinfections as against forty-seven the year before, and twelve disinfections for small-pox compared with three in 1917.

## ONTARIO

THE Venereal Disease Act passed by the Provincial Government provides for the compulsory notification of venereal diseases to local officers of health who, in turn, must report to the provincial board. Since last July, 1918, when it came into force, twenty-four hundred and forty-nine cases have been reported. Dr. McCullough, Provincial Health Officer, holds the Dominion Government responsible for the unsatisfactory manner in which the Provincial Venereal Disease Act is working out. The Act, and the machinery created for its enforcement, leave nothing, he thinks, to be desired in the fight against this scourge; but the action of the Federal Government in refusing a license to the provincial authorities to manufacture salvarsan—the drug which will effect the cure of venereal diseases—makes it impossible to fight it as successfully as it can be fought. An application for the right to manufacture the drug in this province was made by the Provincial Board of Health in 1917. The application was refused, and a second was filed two months ago, but nothing has transpired. If this application were granted, treatments of venereal disease could be given at about fifty cents, whereas now the cost is about two dollars.

Dr. McCullough is firmly of the opinion that if a permit were given the Provincial Board of Health to allow salvarsan to be manufactured in Ontario, an effective step would be taken in the fight against this disease.

Mr. Justice Hodgins, who made an investigation into the extent of venereal diseases, holds a similar view to that of the Provincial Board of Health, that a license should be granted. He considers the action of the Dominion authorities to be a "national mistake". He says in his report: "Salvarsan, a medical necessity under various names, in dealing with venereal diseases, is protected by a German patent. In Canada, only two licenses to manufacture it have been granted, and 5 per cent. of the gross sales have been reserved, presumably for the ultimate benefit of the German owners. Only one licensee, the Synthetic Drug Company, has made any progress in producing it, although the licenses were granted in 1915, and the Patent Commissioner has refused to allow the Provincial Board of Health in Ontario to manufacture it."

MEDICAL service is now provided in ninety-two public schools and twenty-six separate schools in Toronto, with 97,000 pupils. Last year 17,000 complete physical examinations were made in the schools, and 9,200 children were found with defects other than those of teeth. Thirty-one thousand dental examinations disclosed 23,000 teeth defects. The Educational Department has completed arrangements for the medical survey of the children attending Ontario schools, and a practitioner will carry on a dental survey at the same time.

THE Academy of Medicine, Toronto, held its twelfth annual meeting on May 6th. Reports of the various committees for the past year were presented. The financial statement of the honorary secretary was excellent. One hundred and thirty-two fellows of the Academy have served overseas and these are now gradually returning. There were a large number of fellows elected during the year, the fellowship being now over five hundred. The officers and members of the council were elected for the session 1919-20.

DR. FORBES GODFREY's Marriage Bill, after having been voted down in the Legislature recently, because of the principle involved, was reconsidered by a special committee. The Bill is to be held over till another session, though considerable merit is admitted by the members of the committee. It aims at making it compulsory

for contracting parties seeking marriage to produce a certificate of health showing that neither party is the victim of communicable disease, including tuberculosis, and to secure such affidavit, a change in the system of issuing marriage licenses is suggested.

THE last meeting of the University Hospital Supply Association was held in Toronto University four years from the day of its organization. The President, Lady Falconer, gave a brief address reviewing the fortunes of the association from its feeble beginning, till it grew into one of the most wonderful war organizations of the country. During the four years of war, \$121,107.25 was raised, and \$117,007.21 disbursed, leaving a balance of \$4,100. The grand total of surgical articles sent overseas was 1,808,257. A total of 347,392 articles were shipped in 2,497 cases. A discussion took place as to how the surplus four thousand dollars should be used, and finally it was decided to divide the amount evenly between Pearson Hall and the Orthopædic Hospital.

THE Ontario Medical Association held its annual meeting in Toronto, between May 27th and 30th. Several distinguished medical men from Great Britain were present, these representatives being: Sir St. Clair Thomson, Lieutenant-Colonel Sir Shirley Murphy, Admiral Dimsey, Major Grooves, Sir St. Clair Thomson addressed the gathering on the post graduate medical work in England. He referred to the establishment of a Fellowship in Medicine, which would enable medical men in Canada to take advantage of the post-graduate courses in special lines of work which English institutions were offering. Many other addresses were given by notable speakers. Professor J. Maurice Slemmons, Yale University, delivered an address on obstetrics. Commissioner George A. Kingston dealt with the relation of the Workmen's Compensation Act to the medical profession. One of the features of the convention was a "Symposium on Influenza", in which various aspects of the disease were discussed.

THE Canadian National Committee for Mental Hygiene held its first annual meeting at the Toronto General Hospital recently. Delegates from every part of Canada attended. A plea for better and more careful treatment of the insane was made by Dr. C. K. Clarke. In connection with the scheme of the Committee to hospitalize the insane institutions, he also stated that it would be very difficult to force public opinion to act as long as the insane

asylums were under the control of provincial governments. The only hope was in the appointing of a commission of independent commissioners who have the welfare of the insane at heart. Manitoba had asked for a survey of her institutions with rare courage, and had acted upon the advice given. Preventive methods were necessary, and also careful supervision of individual patients at the asylums by a force of field workers in psychiatry. Through the co-operation of the University of Toronto, the Department of Public Health, the asylums of Mimico and Toronto, and the Social Service Department of the Toronto General Hospital, this course had been made possible and a trained force of workers in this branch would soon be available.

THE Department of Soldiers' Civil Re-establishment has decided to establish a Dominion sanatorium for men returning from overseas suffering from tuberculosis, domiciled in Ontario. In 1917, negotiations were entered into with the Ontario Government for the erection of a central sanatorium. Half the cost is to be borne by the Dominion and half by the Provincial Government. It has been deemed advisable, however, that the Federal Department should erect its own sanatorium and the site secured by the Ontario Government has been taken over at a cost of \$18,000.

IN the graduating class of the Medical Department of Western University, London, W. H. Morrison, who won first class honours in the third, fourth and fifth year of his course, carried off the gold medal; E. M. Watson is the silver medallist.

WHEN the Ontario College of Pharmacy Council met in session recently, the President, gave notice that more than a hundred applications had been received from students who desired to have military service count on their term of apprenticeship.

#### ARMY MEDICAL SERVICES

THE Distinguished Service Order has been awarded to Major Charles F. Knight, M.D., R.A.M.C., formerly of Toronto, and later a practitioner in Moose Jaw, Saskatchewan.

LIEUTENANT-COLONEL D. P. KAPPELE, M.D., of Hamilton, has lately been awarded the Bar to the Distinguished Service Order.



JOHN F. BURGESS, M.D., C.A.M.C., of Owen Sound, has been gazetted an Officer of the British Empire.

At an investiture at Buckingham Palace recently, the Military Cross and Bar was awarded to Captain Frederick Campbell, Medicals.

THE Military Cross was awarded to Major Herbert Cumming, Medicals.

THE Military Cross has been awarded to Captain C. T. Lewis, M.D., C.A.M.C.; Major William Ewing, M.D., C.A.M.C.; Captain Roy Jenkins, M.D., C.A.M.C.

THE Military Cross and Bar has been awarded to George Smith, Medicals.

THE Military Cross has been awarded to Thomas Barclay, Medicals.

THE Red Cross has been awarded to Nursing Sister Lilla Car-Harris.

THE names appear in the King's birthday honour list of the following medical men who have been created Officers of the Order of the British Empire: Clifford Reason, Frederick Young, Arthur Ellis, Arthur Jones, Lorne Jones, Russell Robertson, Peter Stewart, Harry Marshall, James Marshall, Herbert Martin, William Richardson, Samuel Straight, John Ward, all of the C.A.M.C. Member of the Order of the British Empire, Frederick Thom, C.A.M.C.

THE distinctly national side of the Red Cross work has been shown in the task which it was asked to assume in connection with the return of the soldiers' dependents to Canada. It has been spending in the neighbourhood of \$1,500 per week for this purpose. There has been entailed the enrolment of a staff of nineteen nurses who accompanied each of the five trains from each boat, and, in addition, staffed the emergency hospital which was established over night and taken as an annex to the Military Hospital under the direction of an Army Nursing Sister. A Red Cross nurse accompanied the Port Doctor on each ship to record and tag the hospital cases, and she or other nurses went with the am-

bulances to the hospital. An idea of the enormous labour involved can be gained when on January 1st, it was reported that 50,000 women and children were coming to Canada, but a later statement in March appeared affirming there would be double that number.

THE Orthopædic Hospital has been made the recipient of numerous gifts from the Toronto Red Cross Society. The Home Service Department of the Red Cross, moreover, reports that in all \$10,580.83 have been disbursed in useful gifts to the hospitals of the city.

DR. E. RYAN, Unit Medical Director, Department of Soldiers' Civi. Re-establishment, has resigned his position after three years' military service, and will return to his former duties as Medical Superintendent of Rockwood Hospital, Kingston. Dr. Ryan, while in charge of Military District No. 1 and 2, built up therein a splendid organization in the various departments of medicine and surgery and research work. In social service work the organization has been perfected, and the different sections placed in the hands of men of well tried experience.

*Appointments:—*

Lieutenant-Colonel John Addy Sponagle is posted for duty as Officer Commanding Camp Hill Hospital, vice Lieutenant-Colonel D. A. Whitton.

Captain Clair Locklesy Douglas is posted for duty under the A.D.M.S., military district No. 2.

Major Archibald Francis Macaulay is posted for duty under the A.D.M.S., military district No. 1.

Captain John Ferguson Cooke Foster, on ceasing to be attached to Clearing Services Command is posted for duty under the A.D.M.S., military district No. 4.

Captain William Martyn ceases to be attached to the Clearing Services Command, and returns to military district No. 2.

Major Robert Mayrand is posted for duty under the A.D.M.S., military district No. 5.

Lieutenant-Colonel Edward Albert LeBel ceases to command the Quebec Military Hospital, and is transferred to demobilization district No. 5 for medical treatment.

Acting Major Alfred Chatwin Scott is detailed to perform the duties (temporary) of Deputy Assistant Director of Medical Services, Sanitation, military district No. 12.

Lieutenant-Colonel Edward Vincent Hogan is posted for duty under the A.D.M.S., military district No. 6.

Captain John Douglas Adamson is posted for duty under the A.D.M.S., military district No. 10.

Temporary Major (acting Lieutenant-Colonel) W. H. Merritt relinquishes the acting rank of Lieutenant-Colonel on ceasing to be employed at Canadian Special Hospital, Etchinghill.

Captain William Ezra Graham is posted for duty under the A.D.M.S., military district No. 13.

Captain James Giles Robinson Stone, from the office of the D.G.M.S. Military Headquarters, Ottawa, is posted for duty under the A.D.M.S., military district No. 2.

Captain Percy Lorne Layers ceases to be attached to the Clearing Services Command on transfer to demobilization district No. 6, for medical treatment.

Lieutenant-Colonel Anson Scott Donaldson is posted for duty as Officer Commanding Ogden Military Convalescent Hospital vice Captain J. S. F. Marshall.

Captain Arthur Buller Ritchie is posted for duty under the A.D.M.S., military district No. 2.

Captain Harold Edward Skeete, from C.E.F.S., is posted for duty under the A.D.M.S., military district No. 4.

*Promotions:—*

To be Captain:—Lieutenant John James Andrews; Lieutenant George Ahern.

To be Acting Major:—Captain Kenneth Grant Thabir.

Lieutenant Norman Thomas Beeman to be Captain.

Captain Frederick James Colling to be Major.

Lieutenant Roy Dickson Lindsay to be Captain.

Captain William Richard Colese to be Major.

*Returned from Overseas:—*

The undermentioned officers are returned from overseas on general demobilization for further duty:—Lieutenant-Colonel Samuel Harvey McCoy; Captain Arthur Kellogg Connolly; Captain James Fraser Ellis; Colonel George Septimus Rennie; Lieutenant: Colonel Anson Scott Donaldson; Lieutenant-Colonel George Sydney Mothersill; Captain Joseph Wark; Captain Robert S. Patrick Carruthers; Lieutenant-Colonel Fred Armstrong Young; Lieutenant-Colonel Francis A. Scrimger, V.C.; Major Frederick William Lees; Major Frederick Adam Cleland; Captain William Thompson Kennedy; Captain John Leslie King; Captain G. H. Lansdowne.

### Book Reviews

INTERNATIONAL CLINICS. A Quarterly. Edited by H. R. M. LANDIS, and others. Volume III., twenty-eighth series, 1918. Publishers: J. B. Lippincott Company, Philadelphia, London and Montreal.

This volume is up to the usual standard so long maintained by this firm of publishers. The subjects taken up are so varied that every medical man, no matter what his specialty, may find something of interest. The subjects are necessarily taken up in a superficial way, but this is an advantage to most practitioners, who have not the time to go deeply into the more intricate problems, that require an elaborate equipment for their usefulness to be worked out.

RECONSTRUCTIVE SURGERY IN PEACE. Based on Orthopædic Surgery in War. By A. MACKENZIE FORBES, M.D., C.M. Reprinted from a series beginning in February issue, 1919, of The Medical Council. 420 Walnut Street, Philadelphia, Va.

This book is based, not only on the author's experiences in the War, but on personal communications he has had from many friends, who have been working in this particular field. It is full of little hints, not only of what to do, but also, of what not to do. The latter quality, alone, gives the brochure a value and use, seldom found in larger and more pretentious works. It is simply written in a didactic form and contains no illustrations. To the man doing fractures or bone work, who finds many of the difficulties are not explained in the large volumes, this small book is recommended.

INTERNATIONAL CLINICS. A Quarterly. Edited by H. R. M. LANDIS, and others. Volume IV., twenty-eighth series, 1918. Publishers: J. B. Lippincott Company, Philadelphia, London and Montreal.

This volume contains considerable material from the recent war, both in medicine and surgery. Many old subjects, such as cleft-palate and ruptured bladder, are treated with, but generally



from a personal point of view, that makes them attractive reading.

An unusual amount of space has been devoted to the orthopaedic branch of surgery. This subject is well handled and makes very interesting reading.

The whole volume admirably fulfils the scope intended for it—of giving the latest teaching on the different subjects in a simple attractive form so as to appeal to the busy practitioner.

**ROENTGENOTHERAPY.** By ALBERT FRANKLIN TYLER, B.Sc., M.D., professor of clinical roentgenology, John A. Creighton Medical College. 162 pages, with 111 illustrations. Price, \$2.50. Publishers: C. V. Mosby Company, Metropolitan Building, St. Louis, Mo.

This little book is designed for the beginner in Radiography, and right worthily does it fulfil that object. In its 162 pages it has no less than 111 illustrations, many of which are of cases of disease before and after treatment with Röntgen rays. We think it is unfortunate that "Roentgenotherapy" instead of "Radiotherapy" is made the title of the book. Roentgen has the great misfortune to belong to a nation no longer inside the pale of moral culture; he discovered one property of these rays accidentally, and all the subsequent work on the applicability of these rays to surgery and therapeutics was done by others. The book is certainly all that the preface claims for it.

**NERVE INJURIES AND THEIR TREATMENT.** By Sir JAMES STEWART, K.C.M.G., C.B., M.D., F.R.C.P., senior physician to the Westminster Hospital; and ARTHUR EVANS, M.S., M.D., F.R.C.S., surgeon and lecturer on surgery at the Westminster Hospital. Oxford Press, London; Second edition.

THE second edition of this book is an improvement on the first. For the general practitioner and the neurologist and orthopaedic surgeon as well, it is a most valuable work. The first part is devoted to a discussion on anatomy and physiology of nerves and pathology of lesions. Then follows a general description of examination, diagnosis, prognosis and treatment. Finally lesions of the different nerves are dealt with individually. The arrangement of the subject matter is in a comprehensible form and the whole is written in the authors' lucid style. A valuable feature of the book is the brief but adequate references to anatomy, descriptive

of the different nerves as each is dealt with. Each lesion is illustrated by succinct notes, excellently prepared diagrams or actual photographs of appropriate cases. It is to be hoped that future editions will give further observations on post-operative treatment. Considering the number of war injuries to nerves which will be everywhere seen for the next few years, this work will be of special interest to the profession generally.

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### Books Received

THE following books have been received and the courtesy of the publishers in sending them is duly acknowledged. Reviews will be made from time to time of books selected from those which have been received.

ESSENTIALS OF SURGERY. A TEXT-BOOK OF SURGERY. For Student and Graduate Nurses and for those interested in the care of the sick. By ARCHIBALD LEETE McDONALD, M.D., The Johns Hopkins University. 265 pages with illustrations. Price \$2.00. Publishers: J. B. Lippincott Company, Philadelphia, London and Montreal, 1919.

SECOND INTERIM REPORT OF THE PUBLIC WELFARE COMMISSION OF MANITOBA. Printed by Order of Legislative Assembly of Manitoba, February, 1919. Printer: Philip Purcell, Winnipeg, 1919.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. With Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By HOBART AMORY HARE, M.D., B.Sc., professor of therapeutics, materia medica, and diagnosis in the Jefferson Medical College of Philadelphia. Seventh edition, 1023 pages, enlarged, thoroughly revised, and largely rewritten, illustrated with 145 engravings and 6 plates. Price \$5.50. Publishers: Lea & Febiger, Philadelphia and New York, 1918.

**ELEMENTARY BACTERIOLOGY AND PROTOZOOLOGY.** For the Use of Nurses. By HERBERT FOX, M.D., director of the William Pepper Laboratory of Clinical Medicine in the University of Pennsylvania. Third edition, thoroughly revised; 222 pages with illustrations. Price \$1.75. Publishers: Lea & Febiger, Philadelphia and New York, 1919.

**A TREATISE ON ORTHOPÆDIC SURGERY.** By ROYAL WHITMAN, M.D., M.R.C.S., F.A.C.S. A director of military orthopædic teaching. Sixth edition, thoroughly revised; 914 pages with illustrations. Price \$7.00. Publishers: Lea & Febiger, Philadelphia and New York, 1919.

**PENSIONS AND THE PRINCIPLES OF THEIR EVALUATION.** By LLEWELLYN J. LLEWELLYN, M.B., late temporary member Appeals Tribunal, Ministry of Pensions; and A. BASSETT JONES, M.B., Military Orthopædic Hospital, Whitechurch. With a section on PENSIONS IN RELATION TO THE EYE. By W. M. BEAUMONT, acting ophthalmic surgeon to the Bath War Hospital. 702 pages. Publishers: William Heinemann (Medical Books), Ltd., London, 1919.

**THE BLIND; THEIR CONDITION AND THE WORK BEING DONE FOR THEM IN THE UNITED STATES.** By NARRY BEST, Ph.D. 763 pages. Publishers: The Macmillan Company, New York, and Toronto, 1919.

**THE PRACTICAL MEDICINE SERIES. VOLUME I, GENERAL MEDICINE.** Edited by FRANK BILLINGS, M.S., M.D., head of the medical department, and dean of the Faculty of Rush Medical College, Chicago. Series 1919. Price \$2.50. Publishers: The Year Book Publishers, 304 S. Dearborn Street, Chicago.

**MILITARY SURGERY OF THE EAR, NOSE AND THROAT.** By HANAU W. LOEB, M.D., Major, Medical Reserve Corps, U.S.A. Price \$1.25. Publishers: Lea & Febiger, Philadelphia and New York, 1918.

**SIR WILLIAM TURNER, K.C.B., F.R.S.,** professor of anatomy and principal and vice-chancellor of the University of Edin-

burgh. A CHAPTER IN MEDICAL HISTORY. By A. LOGAN TURNER, M.D. Price 18/- net. Publishers; William Blackwood & Sons, Edinburgh and London, 1919.

THE INTENSIVE TREATMENT OF SYPHILIS AND LOCOMOTOR ATAXIA BY AACHEN METHODS (with Notes on Salvarsan). By REGINALD HAYES, M.R.C.S. Third edition, revised, 92 pages. Price 4/6 net. Publishers: Baillière, Tindall & Cox, 8 Henrietta Street, London.

MEDICAL QUARTERLY. Volume I, No. 2. Department of Soldiers' Civil Re-establishment. Editors: Lieutenant-Colonel F. McKelvey Bell; Lieutenant-Colonel J. L. Biggar. Ottawa, April, 1919.

QUARTERLY MEDICAL CLINICS. A Series of Consecutive Clinical Demonstrations and Lectures. By FRANK SMITHIES, M.D., F.A.C.P., associate professor of medicine, School of Medicine, University of Illinois. Price \$1.50. Publishers: Medicine and Surgery Publishing Company, Metropolitan Building, St. Louis, 1919.

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**INFORMATION FOR THE TUBERCULOUS.** By F. W. WITTICH, A.M., M.D., instructor in medicine and physician in charge of Tuberculosis Dispensary in the University of Minnesota Medical School. 150 pages. Price, \$1.00. C. V. Mosby Co., St. Louis; McAinsh & Co., Limited, Toronto, 1918.

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At the recent medical conference at Delhi, India, the president, Sir Nilratan Sircar, discussed among various phases of the medical situation of his country the stupendous problem of the influenza epidemic. It made its first appearance in the capital of the Western Presidency, then spread rapidly over all India along the great trunk railways, till practically all parts of the country were affected. A second, and a far more severe outbreak of the disease occurred in the autumn of the year. In a country like India, where many deaths are not reported at all, it is not possible to arrive at exact figures regarding the death estimate. There is, however, ample reason to conclude that this fell disease has collected during the last six months a much heavier toll than cholera, malaria, or even plague, within a similar period of time. One observer made it 6,000,000 in twelve weeks, which works up

to as much as five times the mortality of war. For, whereas, cholera and plague are more prevalent in large cities than in villages, and malaria ordinarily affects the villages more than the towns, this disease affected urban and village population without distinction. As the war required, and rapidly obtained, the willing and devoted service of a large number of medical men, the epidemic taxed to the utmost degree the energies, attention and time of every medical man left in the country, yet thousands of sufferers died without treatment. The number of ministers of health were hopelessly inadequate in comparison with the innumerable sufferers. Less than 10,000 persons were struggling to minister to the medical needs of a population of 830,000,000.

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THE conference representing Allied Red Cross Societies, under the presidency of Sir Robert Philip, has been considering the report of the sub-committee on tuberculosis. There was striking unanimity in the expression of opinion that what was needed was a common scheme of action throughout the world on the lines which had been already adopted in Great Britain, and, to a large extent, in the United States. The centre and pivot of activity was the tuberculosis dispensary. With this must be closely linked sanatoria hospitals or homes for advanced cases, open air schools, and farm colonies. Particular importance was urged on attention to such vital matters as the care of children, the problems of housing, nutrition and alcoholism; the institution of appropriate measures to prevent the transmission of tuberculosis through infected milk; open air schools for the accommodation of children already infected by or suspected of tuberculosis; close co-operation between the several institutional factors—dispensaries, hospitals and sanatoria—and the more extended development of skilled social service under medical care.

